

SOUTHERN TEXTILE BULLETIN

Commerce

VOLUME 27

CHARLOTTE, N. C., THURSDAY, FEBRUARY 26, 1925

NUMBER 26

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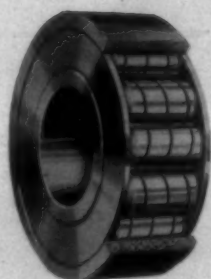
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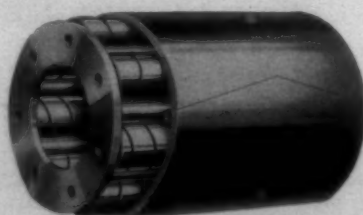
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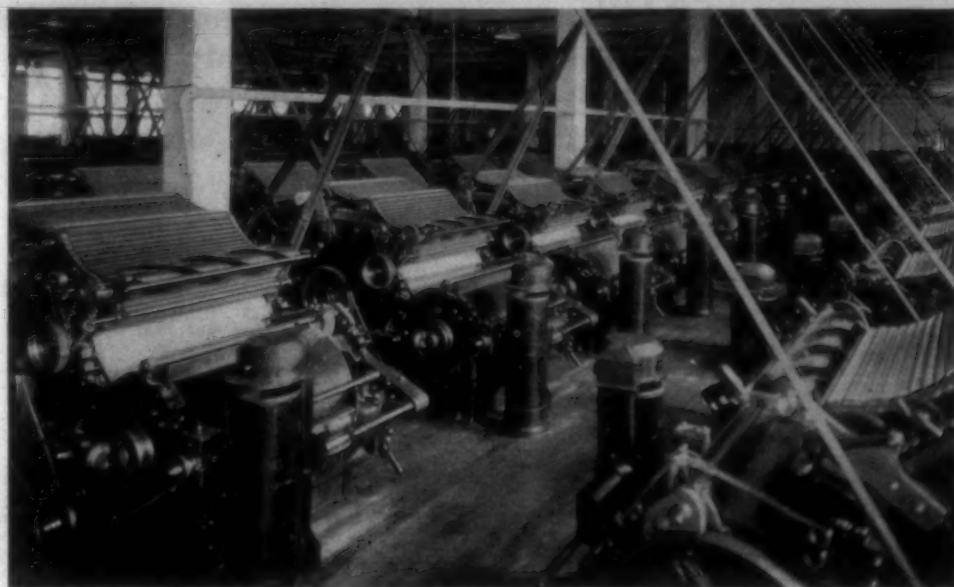
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NUMBER 26

The Utilization of Cotton Waste

THE following is abstracted from a lecture by James Reed before the Anthracene Textile Society of Manchester, Eng.:

Classes of Waste.

The raw material of the cotton waste spinners is divided into two classes, known as "soft" and "hard."

Soft waste includes what are termed droppings from openers and scutchers; cylinder, doffer and flat strips, and cylinder and taker-in fly from the carding process; comber waste, clearer waste and stockings (otherwise known as flat waste); under clearer or crow laps, sweepings from the card room; in fact, any material that has not reached the yarn stage.

Roving waste also comes under this heading, but, owing to its superior quality, it is, in a general sense, outside our province, it being opened and reused to advantage by the cotton spinner.

Hard waste is that which has reached the yarn stage, and consequently includes cop bottoms, pulled cops, reeling and doubling waste, etc., as also clippings from hosiery.

The range of goods manufactured from these wastes is a very wide one. In the primitive class we have flocks made from a low grade of soft waste and used for bedding and upholstery; also engine cleaning waste, which by a simple pulling process is made from such hard waste as is unsuitable for breaking up and reopening. Then we have common wadding and sized wadding for tailors' use, absorbent and medicated cotton for sanitary and surgical purposes, and gun cotton.

Yarn spinning and manufacturing is, however, the most important branch of the cotton waste trade, and this is accomplished by various methods according to the class of goods required.

Systems of Yarn Production.

If a yarn has to be produced that will resemble as closely as possible an ordinary cotton yarn and of which the characteristics are strength, smoothness and regularity, the recognized system of cotton yarn spinning is resorted to, with certain modifications to suit the comparatively short and irregular fibres under treatment. For example, the roller and clearer card is substituted for the revolving flat card, since the latter extracts too much of the very short fibre in the form of flat strips and requires very

frequent stripping of the cylinder and doffer, and one head of drawing and one or two passages of roving may be eliminated according to quality and counts of yarn required.

Another method, also related to the ordinary cotton system, is known as the preparation or multiple coiler system. This is used for moderately strong yarns that require to be fairly smooth, but not essentially even. In this case two passages of roller and clearer carding are adopted, the first card, known as the breaker, being provided with a single coiler, from which the cans are taken to a Derby doubler and the silver made into laps. Two or four of these laps are put up at a second or finisher card provided with four, five or six coiling motions, each receiving its quota of sliver, which, as you will gather, is very light as compared with an ordinary cotton card sliver.

The bulk of the yarn made from cotton waste is, however, produced on the condenser system, and it is on this that I shall concentrate.

Condenser yarns are of a full and woolly character and used chiefly for web purposes. They lend themselves to softness and absorbency, which may be instanced as necessary features in goods ranging from sponge cloths and mops to underwear as represented by hosiery, and to a raising or napping process as requisite for surgical lint, flannel-ettes, blankets and the like.

Possible Uses.

These various processes make it obvious that cotton waste can be manufactured into a very wide range of goods, some of which enter into a serious competition with cotton and woolen fabrics of a certain standard. It is indeed the fact that cotton waste is largely used in goods that are passed on to the consumer as woollens, and its identity is hidden in such classifications as unions and angolas as used for shirtings, etc., though to no mean advantage, as the combination of the cotton fibre with wool for certain articles of wearing apparel requiring frequent washings prolongs their use by preventing shrinkage, and the cost to the consumer is decidedly less than would have to be paid for pure woolen goods.

It would be vain to attempt to name the whole range of woven and knitted goods that are producible

from cotton waste, as it is so extensive.

In the grey and bleached state it finds an outlet in certain commodities I have already named—sponge or cleaning cloths, mops, surgical lint, flannel-ettes, blankets and hosiery. In addition there are sheetings, quilts, table coverings, towel- ing, etc., and various printed goods.

In the dyed state cotton waste in general gives great possibilities, as the resulting yarns from the condenser system of spinning are a very close imitation of woolen yarns, and to carry the resemblance a stage further it is not uncommon to add a little wool or wool waste. Such yarns as these are styled "vigogne" or "imitation" yarns. The term "vigogne" in the strict sense applies to yarns which do contain a small percentage of wool or wool waste, but nowadays it is synonymous of most yarns ranging from, say, 4s to 14s counts produced on the woolen or condenser system from dyed cotton waste in mixture form. The great variety of goods manufactured therefrom includes dress material and underclothing for women's wear, trousersings suited to the warmer climates, hosiery and tapestry. Coarser yarns are put into blankets, comfortables, rugs, carpets, fancy table cloths, and so forth, all in great demand, and made the more attractive by bright colorings and good design. England seems to be the one manufacturing country in Europe that has not realized the importance of this branch of the cotton waste trade. In Northern France, Belgium, Holland and Italy there are numerous establishments for the production of vigogne yarns. In Russia also there were before the war some well equipped plants for this particular industry, and many more were in contemplation. The chief centres, however, are in Poland and Germany, where particular attention has been given to the productive capacity of the machinery employed and to the extension of markets. The raw material—cotton waste—has been obtained in large quantities from Lancashire, and undoubtedly much has been returned to us in the form of goods that have had a ready sale. Nevertheless, all the machinery incidental to the enterprise—whether it be for dyeing, preparing, carding, spinning, weaving or finishing—can be obtained in the immediate vicinity. Success in operating a cotton waste

plant depends on it being of the most up-to-date model to give the greatest output consistent with the quality and character of the goods produced, and more particularly does this apply to export trade to meet competition from the Continent. To this end it is necessary to depart from old methods of production.

Waste Selection.

The selection of the wastes to be used must, of course, correspond to the class of goods manufactured. For yarns of the finer counts, requiring strength in the single, we try to secure a decent staple, and for good color we select the cleanest of cotton wastes. If to be soft spun and of coarse counts, say, for raising purposes, a lower class of waste may suffice; and again, if to be dyed, we make our selection according to whether the shades are to be light or dark.

The machinery likewise must be adapted to particular requirements, and there has also to be considered the class of labor available, male or female, especially in respect to the spinning.

The various machines used in the production of wadding and medicated cotton were illustrated and described, as also the ordinary cotton and the multiple-coiler systems for waste yarn production. The lecturer, however, devoted most of his time to a comparison of the English and Continental condenser systems, and drew attention to the advantages which attach to the latter in a productive capacity.

English System.

The machines used in the preliminary operations include, according to circumstances, the willow, hopper bale breaker, Crighton opener (single or double), and the hard waste breaking-up machine. Supplementary machines, such as thread extractors for separating yarn waste from soft waste in sweepings, and preparing or pulling machines for loosening yarn waste, and especially ring frame waste, previous to breaking-up, also have their uses.

In the smaller mills, mixing or blending is done by hand, but in the larger mills we find lattice or pneumatic conveyors and numerous bins, and, be it noted, the blending must be as thorough as possible to get uniform results, for the remaining

(Continued on Page 10)

Power Situation in North Carolina

IN a recent issue of the Manufacturers Record, Thorndike Saville, professor of hydraulic engineering at the University of North Carolina, summarizes the hydro-electric power situation in North Carolina. He says that from analyses based entirely upon the figures of the United States Geological Survey and the United States Government, it appears evident that: (1) North Carolina produces more electric energy than any other Southern State; (2) North Carolina has more installed horsepower in waterpower than any other Southern State; (3) North Carolina has more horsepower (water power) in private manufacturing plants than any other Southern State, and (4) North Carolina has greater undeveloped water power resources, based on flow and fall of its streams, than any other Southern State.

A further brief analysis of the present power situation in North Carolina may be made from the data contained in Table 1. This indicates:

1. The total output of electrical energy in North Carolina has increased over 100 per cent from 1919 to 1923.

2. The total output for 1923 exceeded for the first time one billion kilowatt hours.

3. The output by water power in North Carolina has increased only 85 per cent from 1919 to 1923.

4. The output by fuel has increased 231 per cent from 1919 to 1923, the greatest increase occurring during the past year.

5. The relative amount of total power generated by water power was 93 per cent in 1920, and has decreased to 82 per cent in 1923.

6. North Carolina produces the greatest amount of electrical energy of any of these States.

7. North Carolina has dropped from first place in 1920 to third place in 1923 in the per cent of power produced by water power.

8. North Carolina has risen from sixth to fourth place in the percentage of power produced by fuel.

9. In spite of a comparable rate of increase in total power output, and in spite of large producing coal fields in several of the States, in none of the other States has there been such a marked increase in the percentage of power produced by fuel. Moreover, in none of the other States, except Tennessee, is there the amount of undeveloped water power that there is in North Carolina. This indicates that North Carolina, for the past two years, has not compared favorably with the other States in the development of new waterpower projects. In part, this is due to the possibility of obtaining cheap power from South Carolina developments; but, in part, it indicates a backwardness in water power development on the part of some of the public utility companies in North Carolina.

North Carolina has, since 1912, rapidly surpassed its neighboring States in the output of electrical

power. This output is a sensitive index of industrial development and reflects the acknowledged superiority of North Carolina in this respect. Moreover, a large amount of power generated in South Carolina and Georgia is transmitted into North Carolina for use. It is estimated that this amounts to about 250,000,000 kilowatt hours annually. The annual rate of increase in output of electrical energy in North Carolina for each year over the preceding year has been as follows: 1920, 12.3 per cent; 1921, 3.8 per cent; 1922, 30 per cent; 1923, 43.3 per cent. The decrease in 1921 was due to the industrial depression of that year. This decrease was less in North Carolina than in any other Southern State.

The annual rate of increase in power output has averaged 20.82 per cent from 1919 to 1923, but has averaged 36.65 per cent during the past two years. The increase of the past year has been almost entirely due to the public utility demands. The probabilities are that this rate of increase will decline somewhat during the year 1924, due in part to a sharp curtailment of cotton mill activities and in part to a decrease in the mileage of new transmission lines constructed. The tendency to annual rate of increase from North Carolina plants greater than 10 per cent will probably continue for several years, due to two causes: (1) The larger public utility companies plan several new water power developments which will add some 100,000 horsepower installed capacity in North Carolina, and, (2) the increased demands in South Carolina and Georgia will absorb much of the output of plants in those States which has heretofore been available for transmission into North Carolina, making it necessary to produce more power from plants in this State. This will particularly cause a continued increase in the output of power produced by steam.

The rate of increase in power output is nearly as great in Alabama and Tennessee as in North Carolina. This high rate should continue until these States surpass both South Carolina and Georgia in total output. Both the former States have greater coal reserve than the two latter States, both have greater amounts of potential water power and both are more fully industrialized. The probabilities are that one or both of these States will approach North Carolina in total output of electrical energy within the next five years.

Estimated Potential Water Power in Southern States*

State.	Per cent of potential water power east of Mississippi River.
North Carolina	8.9
Alabama	7.8
Virginia	7.6
Tennessee	7.2
South Carolina	7.1
Georgia	5.8

*From United States Geological Survey estimates, 1921, comparing

States on basis of fall and stream flow only.

It is clear that the great demand for power in the next decade will tax the water power resources of North Carolina to the utmost, and in this engineers are interested from two points of view: First, where are the available undeveloped water powers located? and, second, how can they be most economically developed? The supply of power in North Carolina from extra State sources has already reached large proportions. This tendency will doubtless increase, but is affected by the following factors:

1. Many of the sites on eastern North Carolina streams owned by the larger power companies and susceptible of economic development have already been developed. These companies operate also in South Carolina and are able at present to generate at plants in that State an excess of power over local demands and transmit it for use to North Carolina cheaper than an equivalent amount of power could be developed in this State.

2. Similarly, power companies operating in North Carolina have found it cheaper to purchase large amounts of excess power available in Alabama and Georgia and relay it for use to this State rather than develop an equivalent amount of power at new plants in North or South Carolina.

3. The ability to interchange power among the various Southern Appalachian States is one of the principal factors affecting the low rates for electrical energy obtaining in these States, and in turn this attracts industrial development. A striking instance of such interchange was afforded in the fall of 1921, 1922 and 1923, when the Carolina Power & Light Co. plants suffered diminished output from severe drought. An arrangement was affected whereby the steam plant of the United States Government at Sheffield, Ala., was leased for the use of power companies in the Southeastern zone. The output of this plant being used in Alabama made possible transmission of an equivalent amount of energy to Georgia, where it was used. The same amount of energy from Georgia plants was sent into the Southern Power Company's system in North Carolina, from which an equivalent amount was finally transmitted to the Carolina Power & Light Co. The total distance over which this interchange took place was nearly 700 miles. No interchange of power on such a large scale over such a distance is possible anywhere else east of the Rocky Mountains.

4. The excellence and efficiency of the interconnected transmission systems of the Southeastern States will affect the progress of power developments in those States. Normally, there will be a tendency to develop the cheapest sites in each State, selling excess power, if there is any, to markets in adjacent States. This

will tend to delay the development of less attractive sites in all the States.

5. As stated previously, many of the most attractive sites in North Carolina have been developed. Many other large sites remain undeveloped, but their development can be attained only at a greater unit cost than in the case of most of the earlier plants. A condition is now arising, with power demand considerably in excess of power supply, where one of three alternatives or some combination thereof must be met, namely:

(a) Less attractive sites, or sites more distant from present markets, must be developed in North Carolina. This means greater unit costs and consequently increased power rates. As a matter of fact, even favorable sites cost much more to develop today than a few years ago. The location of the undeveloped water power in the State has an important bearing upon the cost of power to present industries and upon the location of new industries. Of the estimated undeveloped water power available, not more than 15 to 20 per cent is located upon streams draining to the east of the Blue Ridge and passing relatively near to the present industrial sections of the Piedmont portions of the State. Much the greater amount of the undeveloped power lies on streams flowing into the Tennessee and is remote from present industrial development. From this there will probably arise two results: (1) New industrial development will grow up in western North Carolina near the available power supply, and (2) power from western sources will, at some future time, be transmitted to the industrial regions of the Piedmont. This will mean greater loss in transmission and increased rates to eastern consumers.

(b) Power will be transmitted into North Carolina from adjacent States, but as power demands in these States grow their less attractive sites must be developed. Moreover, new sites for development are in general at greater transmission distance from North Carolina. Either condition will make cost of extra State power greater than now, and hence necessitate increased rates.

(c) Rates sufficient to earn a proper return upon the increased investment will not be forthcoming, in which event increased power development in or transmission of power to North Carolina will cease.

6. The facts set forth above are general throughout the Southern States and present serious problems to those who are concerned with future power development and industrial growth in North Carolina and elsewhere. It seems evident that a thorough and impartial investigation of the situation as affecting costs of development, location of undeveloped sites, rates transmission and availability of extra State power, etc., should be

(Continued from Page 47)

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Nothing takes the place of Leather



The Utilization of Cotton Waste

(Continued from Page 7)

operations in the condenser system are few in number and do not provide much opportunity for the rectification of faulty mixing.

The scutcher should be of the improved waste type, with a picker cylinder in front of beater and with hopper feed and filling motion.

Finisher scutchers for doubling four or five laps are also used as need; in fact, some blowing room arrangements are quite as elaborate and up to date as those of a modern cotton mill.

The carding engines and condensers for cotton waste have been modelled on the lines of corresponding machines used in the woolen trade for the reason that, after allowing for the difference in structure of the cotton and wool fibres, similar characteristics are sought in the resulting yarns. There is no attempt to separate the long and short fibres, nor any serious effort at parallelization, for these would, in a degree, defeat the object—the production of a full, soft and "oozy" thread, which lends itself in particular to the manufacture of various raised fabrics.

The English adaptations of the woolen system of carding and condensing, by which is meant those that have hitherto predominated in this country, comprise breaker and finisher cards of the roller and clearer type, 48 in. or 50 in. wide, on wire arranged on either the Derby doubler or Scotch feed principle and fitted with single ring doffer condenser. Each card has six or seven pairs of rollers and clearers and a fancy, the functions of which were briefly outlined.

In the Derby doubler system the breaker card has a feeder for two scutcher laps and a single coiler delivery. The coiler cans are taken to a Derby doubler for the slivers to be made into full or half width laps—full width for preference—for feeding the finisher card.

The finisher carding engine is of similar section to the breaker, but clothed rather finer. The feeder is arranged for two or four of the half-width laps from the Derby doubler, or, in accordance with more modern practice, for two full-width laps, to avoid any space in the centre of the feed.

The slivers are in this instance presented to the feed rollers and the taker-in with the fibres lying in the same direction as when they left the calendars of the breaker card—that is, endwise or approximately so, and the further carding they receive in this machine must, in a relative sense, result in a more parallel formation.

Fitted to this machine is the ring doffer condenser. In this country it is by far the most extensively used of any condenser in the cotton waste trade. Its distinctive feature is the doffer, which, instead of being clothed with full fillet in the ordinary way, is covered with rings of card clothing of uniform width with plain leather rings, about 1/4 in. wide, intervening. The maximum number of card rings that can be

employed for this condenser is about 40, in a width of 48 in. or 50 in., this being for the finer counts of condenser yarns, say, up to 12s, but for the very coarsest yarns there are sometimes as few as seven or eight.

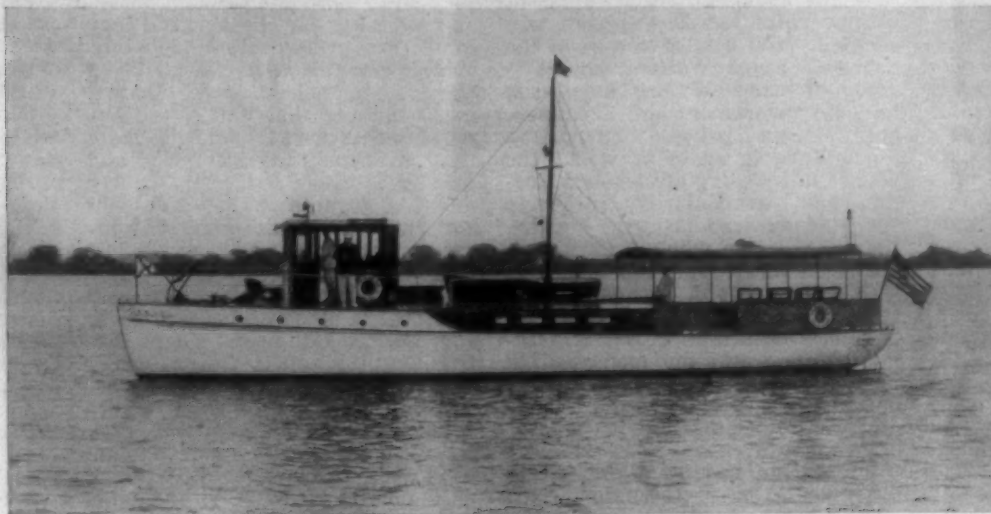
Covered in this particular manner, it is evident that the doffer cannot receive all the material that is presented to it by the cylinder, and, in consequence, when it is stripped by the doffing comb, we get in place of a full width fleece a series of narrow ribbons, which, after passing through a dividing roller and a pair of rubbing leathers, emerge as soft threads or rovings to be wound on a long bobbin.

The fineness of the roving from this type of condenser is limited to about five-hank, and on such numbers its greatest productive capacity may be taken at 12 pounds or 13 pounds per hour. The breaker cards, on the other hand, can be run at a higher production, and, consequently, a fewer number of breaker cards are required as compared with finishers.

To summarize the results of the Derby doubler system of feeding it will be gathered that the tendency towards parallel formation of the fibres will give a somewhat stronger yarn and one that is smoother and firmer than if the fibres had been more disorderly in the condenser roving. Then, if we take the number of slivers fed into the finisher card, say, 192, and divide this by the number of condenser rovings produced—36 to 40—it will be seen that there is a doubling of approximately five slivers per roving, which, of course, is conducive to regularity in counts of the yarn. It follows that the fewer number of rovings we produce from a given number of card slivers the greater will be the degree of doubling and regularity, but as this would operate against output and a light hank roving we are limited in that direction.

The alternative system of feeding adopted in this country is the Scotch system, as used very largely in the woolen trade. It is a very simple arrangement, and being entirely automatic effects a saving in labour. The fleece as it is stripped from the doffer of the breaker engine travels on a creeper to one side of the machine where calendar rollers form it into a flat sliver 4 in. or 5 in. wide. The sliver goes to an overhead lattice conveyor and thence to the collecting rollers of the Scotch feed attached to the finisher card. The collecting rollers are mounted in a travelling carriage which moves to and fro across the feeding lattice. In this manner the flat sliver is deposited in layers which overlap each other. As compared with the feeding of slivers endwise, the laying of the material crosswise on the feeder distributes any irregularity over a greater cradling surface and gives a more uniform fleece at the doffer at any particular condition is dependent on the regularity of the laps made at the scutcher. The fibres also are by this system presented to the feed rollers crosswise—not endwise, as in the previous named system—and as a result the yarn has a more "woollen" appearance.

HOUGHTON



*"Perhaps there lives some dreamy boy, untaught
In schools, some graduate of the field or street,
Who shall become a Master of the art,
An admiral sailing the high seas of thought
Fearless and first, and steering with his fleet
For lands not yet laid down in any chart."*

A CHAT ABOUT CHARTS

by Chas. E. Carpenter

THE above quotation is from Longfellow's "Possibilities;" the illustration is of the good yacht FRANEDA.

There are some things which are best charted, taking our navigation courses. We always prefer our charts in chart form, rather than bound in books. Maps in chart, or hanger form, are always preferable to atlases. In the engine-room of the FRANEDA we have blue prints of the engine, lighting system, and wiring all in chart form, posted on the bulkheads, where we are constantly familiarizing ourselves with them. Were they in book form, the book could never be found when wanted and it would usually be too much trouble to locate it, and new hands coming on would more than likely not know the existence of the book. With everything on the walls, it is different.

So it is with the care of belting. There has been much printed in pamphlet and book form that is valuable, on the subject of the proper care of belting, but who sees it? Who knows that such literature exists? Even if you do know, can you lay your hands on it when it is wanted?

It would seem to me that every employee of a mill ought to know something about leather belting and its care, because there is an enormous amount of belting ruined because of ignorance of how to properly install and care for it.

We have charted or to be more correct, prepared in wall hanger form, like a map, the common rules for the proper installation, use and care of leather belting, the idea to have one or two of these charts hanging on the walls of each room,

where they will be handy for ready reference and read more or less by each employee.

The rules are for all leather belting, and not particularly for VIM Leather Belting. If the charts served no other purpose than to prevent useless belting abuse, they would be worth the having.

We have distributed some 15,000, so you can see that they are quite popular. They are mailed free to any mill having a mercantile, or bluebook rating. There is no obligation to hang these charts if they do not meet with your approval. You might send for one and then if you are favorably impressed, you may send for as many more as you can use.

If you happen to have some of these charts and their usefulness is impaired by their being shopworn or soiled, you may replace them with fresh copies, at our expense.

I believe we were the very first to conceive the advantages of charting The CARE OF LEATHER BELT information and carrying the idea into effect. It is merely an endeavor on our part to effect belting economy. We know that a poor belt properly cared for will prove more economical than the best belt improperly cared for. We make nothing but first quality leather belting and we know that in order to have VIM Leather Belting prove worth, it must be cared for intelligently and therefore, we have a selfish interest in circulating leather belting knowledge.

It is not necessary to refer to this advertisement in making your request for a copy of The CARE OF LEATHER BELT chart, but we would appreciate it if you would.

E. F. HOUGHTON & COMPANY

Works: Philadelphia—Chicago—Detroit

Distributors Located At

ATLANTA, GA.
1001 Healey Building
Phone: Walnut 4807

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Phone: Greensboro 1990

GREENVILLE, S. C.
511 Masonic Temple
Phone: Greenville 2316

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418 N. Third St.
Phone: Olive 3559

AND IN EVERY OTHER TEXTILE MANUFACTURING CENTER OF THE WORLD

Oils and Leathers for the Textile Industry

The Cotton Outlook

C. B. Howard, general sales manager of the American Cotton Growers' Exchange, recently issued the following statement relative to the various factors influencing the cotton situation:

With the issuance of the last ginning report, the size of the crop has lost its influence upon the course of prices. It has been practically settled that the yield is in the neighborhood of thirteen and a half million bales and the world will now look to other factors for effect upon values.

These factors are unusually numerous now and practically all have a bullish pull to them. There are, of course, two which are outstanding: First, the improvement in world trade conditions; second, the outlook for the next cotton crop.

A retrospect of conditions a year or two ago will show what tremendous improvement has taken place since then. The high prices of wheat and other cereals, of wool, flax, jute, and coffee and many other commodities have enormously increased the buying ability of such producers. Witness Argentina, with its wheat and cattle; Brazil, with coffee and cotton; Chile with heavy nitrate exports; Cuba, with sugar and tobacco; Australia, with wheat and wool; Canada, with wheat; our own country, with its wheat and

corn; Egypt, with her high long staple cotton; India, with cotton and jute, and so on through the list. Note the economic regeneration of Europe since the Dawes plan was adopted. You cannot now read the financial pages without noting a credit of many millions being made to some government and to numerous foreign private enterprises. Agriculture is again at work; the wheels of industry are again whirling and momentarily gathering speed; commerce is again knitting the world into a whole.

The chaos of paper fiat money in Europe has ceased. Germany, Austria-Hungary and other countries have stabilized their currency. English sterling and the moneys of a number of other countries are almost up to par with the dollar thus giving their currency a greater buying power.

It does not require a prophet to see what an effect these conditions are having, and will have, upon the demand for cotton and cotton goods.

Few realize how greatly the world can curtail its consumption of a commodity, when price is high and buying ability limited; and few realize how greatly such consumption is increased at a lower price, and under more prosperous conditions. For the past two years, the price of cotton was high; and the world,

excluding the United States, too poor to buy. They largely went without, or pieced out with what they had. Now, the price of cotton and goods are far cheaper, and they have the wherewithal to buy. Watch them go, watch them fill up the accumulated vacuums! Does it mean nothing that our cotton exports to date are 1,400,000 bales more than to same time last year, and gaining at every stride; that every month now, mill takings and mill consumption are exceeding at an increasing ratio the same periods last year?

Last spring and summer, new crop was selling at several cents under spot cotton. Mills and goods distributors the world over naturally curtailed to the limit, to avoid carrying stocks into such a heavy discount; and yet, on August 1, 1924, we were practically under famine conditions. Now October is selling only slightly below July, and mills and good merchants will not fear to carry sizable stocks until well into the new cotton season.

What are the prospects for the next crop? With 40,500,000 acres, with practically no weevil damage and a remarkably open fall, we made only 13,500,000 bales, a very small yield per acre under such conditions. Why should the farmer plant such an acreage again at pres-

ent prices? Comparatively few, operating at low cost and securing a large yield per acre, can pinch a profit out of the present level of prices. Cotton is cheap, compared with other commodities. A large acreage will doubtless go into wheat, corn, tobacco and other products. Ample weevil went into winter quarters to do enormous destruction, should weather next spring and summer be favorable to their propagation. I greatly fear that, because of lack of damage this season, the farmer will not fight weevil next summer until they shall have already taken his crop. It is entirely possible that, with a wet spring, an early frost and weather favorable to weevil, we may have another ten million bale crop next season. Who knows? While, with the best conditions, we are not likely to produce sufficient for the increasing needs of the world.

American mill consumption began decreasing in March last year; and, from May on, was exceedingly small. It is now in excess of the same month last year, with an upward trend, and promises to reach about 6,000,000 bales.

Exports are now 1,400,000 bales above same date last year. With same exports for the remainder of the season as last year, total exports

(Continued on Page 40)

DORRANCETON SILK WORKS

COMMISSION SILK THROWSTERS

MILLS:
KINGSTON, PA.
NANTICOKE, PA.
150,000 SPINDLES

BRANCH OF
DUPLAN SILK CORP.,
HAZLETON, PA.



HOSIERY TRAM WEAVING TWISTS

Send us your raw silk. We will inspect and throw it for you. It will be handled by the same organization and with the same care as material destined for the Duplan looms which

are famed for quality. Canton Tram, Tussah Tram, Hosiery Tram, and Combination Yarns our specialties.

NEW YORK OFFICE
135 MADISON AVENUE

Can you really afford to keep old trucks repaired?

Some mills have cut their maintenance force in half by getting rid of worn wooden receptacles.



Diamond Fibre Drop Side Truck

Used for all kinds of inter-department delivery and conveying purposes. The drop side permits of easier handling of many materials and products.

MILL receptacles made of wood or other perishable materials are a constant source of trouble and expense.

Makeshift trucks, boxes and barrels crack and splinter. Edges become rough and jagged. Workers' hands and clothes and materials in process suffer injury. Trips to the repair shop make them serviceable only for the time being.

Diamond Fibre Receptacles more than pay for themselves. They require no upkeep. After years of service these receptacles remain smooth and unblemished. They protect the most delicate fibres from injury.

Diamond Fibre Mill Receptacles are made of a material that resists the banging of hard daily use like steel. Diamond Fibre is a dense, hard, vulcanized fibre. It is extremely light in weight. It does not scuff, scar, splinter, or corrode.

Diamond Fibre Receptacles have an agate-smooth inside surface. No amount of ordinary wear can affect the slick, glossy finish of these sturdy cans, boxes, baskets, and trucks. They are easily kept clean. Dust and dirt do not stick to the surface.

Mill receptacles of all types

There is a Diamond Fibre Receptacle for every special requirement in textile mills and factories. We can supply the following receptacles in standard sizes: trucks, roving cans, gill cans, boxes, barrels, doffing trays, etc.

If you need some special size or type of receptacle, we can build to your specifications. All construction is carefully and skillfully performed. Back of every article we make stands an organization which has been first in its field for thirty-five years.

Diamond Fibre Textile

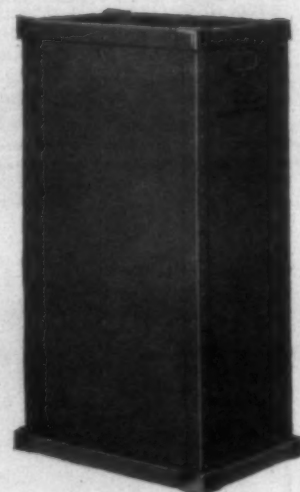
Specialties

We manufacture a large number of smooth, strong special parts of Diamond Fibre. This line includes the following articles:

spool heads	shuttles
loom picks	flier disks
swift braces	shuttle box liners
thrust washers	lacing combs
spindle guards	picker stick ends

You will be interested in our new booklet "Diamond Fibre Receptacles." It contains descriptions and specifications of all standard sizes of these smooth receptacles and special parts.

Write for this booklet today.



Diamond Fibre Gill Can

Used extensively in the Woolen Industry. The inside of the can is treated with water-proof shellac, while the outside of the can is painted with a high-quality varnish. The can is made with a smooth inside finish, eliminating danger of the wool fibres catching on rough and projecting spots as they are fed into the machine.

Diamond State Fibre Company

Toronto, Canada

Bridgeport, Pa., and Chicago, Ill.

London, England

Branches in Principal Cities

Training the Operative

AT a recent meeting of the British Association of Textile Managers, a very interesting paper on the training of textile operatives was read by H. P. Greg. Extracts from this paper are given below:

It is a very important subject on which you have asked me to open a discussion, yet a cynic might dismiss it in a sentence: "Get your youth, tell him what to do, and leave him to find out how to do it." But I assume all here have found out how unsatisfactory is that method, and you want to discuss the possibility and advisability of better methods. I am inclined to ask is the best training of a cotton operative to train him for the cotton trade. What do we want? Is it merely manipulative skill, or do we want behind that manipulative skill, intelligence, initiative brain capacity. We want both, but today the latter is what we want most. The cotton operative of today has developed a high degree of manipulative skill, and yet we are not satisfied; if we were, we should not have this subject for discussion. In the training of the operative we want a high standard of development of both hand and head, but the latter is the more important. If you get highly developed brain power you have the better chance of getting economical hand power. This opens up a big subject in which I might try to prove that training as a citizen is

the first step in the training of a good cotton operative, that is, give your cotton operative the widest possible outlook; but as you do not wish me to attempt to cover this very wide field, I must concentrate on the cotton mill.

I am sure you will sympathize with me on the stress I have laid on the development of brain power, and the question arises can this be achieved at the mill or is it something we must leave to the technical college? The technical colleges and schools are doing most valuable work. Perhaps there is room for improvement, the curriculum may be better co-ordinated, the apparatus may be designed more from the point of instruction, the teachers may reach a higher professional proficiency, but in this development of brain power they are playing their part, they are doing good work. In the mill are we playing our part; could we not do more than we are doing to train the operative for the cotton trade? I fully realize two tremendous difficulties, one is that the managers, overseers, etc., are often, as it is, very fully occupied and feel, perhaps, that they have but few qualifications for this extra work.

A young operative at the age of 14 arrives at the mill. First impressions last long. What can we do? A little instruction during the first few days would be a great help,

a great encouragement. Supposing he was shown over the mill, starting with the first process, being told perhaps where the raw material came from, and going step by step to the last, learning briefly the object of each process, whether cleaning or drawing, whether winding or warping, or weaving, etc. Such a trip round would give him confidence in finding his way about, would impress upon him the continuity of the processes, would enable him to realize better the value of the particular work to which he is put. Then a quiet talk on the terms used, an explanation of such words as hank, count, sliver, warp, weft, reed, pick and a friendly caution upon the necessity of cleanliness, punctuality, tidiness, helpfulness, and attention called to the lines on which the discipline of the factory is maintained. Any special rules or regulations could be notified, and the activities of the firm in welfare work enumerated, prices of meals in the canteen, rules of the savings bank, hours when the doctor calls, information about the rest room, or the library, the times when it is open, the kind of book to be found there, whether technical or frivolous, or both, the games, the social evenings organized by the welfare superintendent. Then there would come the introduction to the overseer, and the young operative should be told that he must look to

his overseer not only for instructions but for help to overcome his difficulties; from the start the overseer should be regarded quite as much as a teacher as a master. The overseer in much the same way will introduce the newcomer to his immediate associates and give him the necessary instructions as to the work which he has to do.

In a few days it is worth while for the manager or overseer to inquire how the newcomer is getting on, whether he understands his job, and whether there are any points on which he wants more information. The object of this solicitude is two-fold; firstly, to bring to the surface the thinking capacity of the young operative, i. e., to develop his brain power; secondly, to make him as quickly as possible master of his job, i. e., to develop his efficiency as an operative. And here I should like to digress for a few minutes to ask you to consider how long it takes to make an operative efficient. We must define our terms, and probably the best definition I can give of efficiency is to say that it is in inverse ratio to needed supervision, i. e., the more efficiency the less supervision, the less efficiency the more supervision. This gives us the key to the whole situation; given adequate instruction, efficiency can be achieved in weeks; without it, it may not be achieved (Continued on Page 38)

J. S. Roberts, President

ESTABLISHED 1919

C. M. Young, Treasurer.

QUALITY

PROMPT SHIPMENTS

The New Home of "Columbus Tape"



A Modern Tape Mill.

The First Built in the South.

SPINNING TAPE

SPOOLER TAPE

TWISTER TAPE

GEORGIA WEBBING AND TAPE COMPANY,

COLUMBUS, GEORGIA

Sold by Supply Houses and Direct

Reduce your Roving Bobbin Costs!

A mill, that cleans 75,000 roving bobbins each week, reports its Termaco Bobbin Cleaning Machine saves 6,000 bobbins each year.

This saving indicates how large a saving in bobbins can be effected by mills operating a Termaco at its full capacity of around 30,000 bobbins per day.

The Termaco by carding off the waste, instead of cutting it off, prolongs the life of bobbins almost indefinitely. Bobbins splintered by hand cleaning have splinters brushed off and gradually become smooth again.

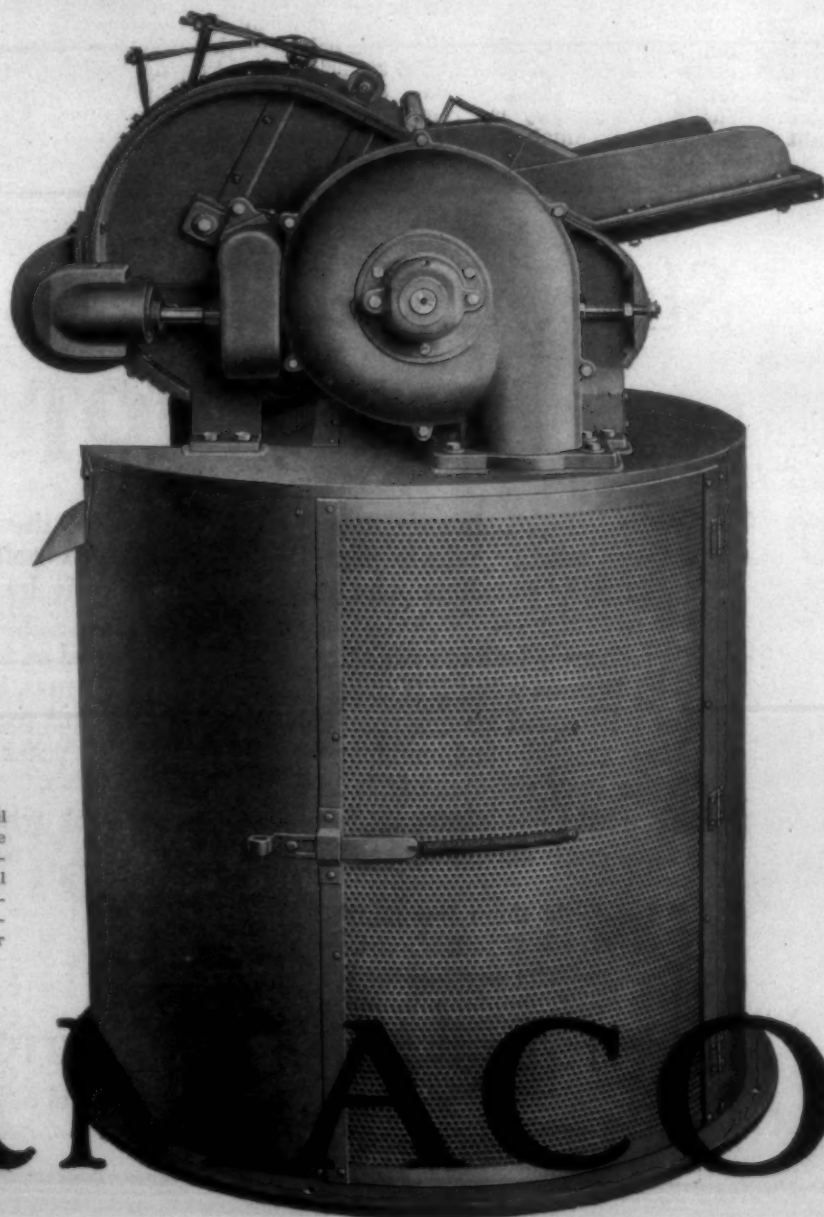
The saving in bobbins is but one of many savings the Termaco has made for mills in this and foreign countries.

Write for "Survey No. 10," which explains in detail the way the Termaco reduces cost.

Engineering Dept.
The TERRELL MACHINE COMPANY, Inc.
Charlotte, N. C.

On and after February 1, 1925, we will not be represented by agents in the South, all Southern business being handled from Charlotte, N. C. The General Supply Co., Danielson, Conn., which carries a complete stock of parts, will continue to act as our representatives for New York and New England.

*Keep bobbins off
the junk heap.*



The TERMACO

Handling the Cotton Crop

By Prof. Thomas Nelson, Director of the Textile Department, N. C. State College.

Considerable attention is being focused at this time on the efforts being put forth to improve the handling of the cotton crop. Conferences, national in scope and embracing all branches of the cotton and cotton textile industries in the United States, are being called to study this question and to determine, if possible, what can be done to prevent avoidable losses in the industry due to weather damage to baled cotton and to variance in baling, ginning, compressing, warehousing, and handling methods generally.

This subject is of interest not only to the farmer but also to the cotton manufacturer who has to take gin-cut cotton and mixed staples and from this produce good quality yarns and fabrics. There is no doubt whatever but that the gin is responsible for much of the damage done to the cotton. As far back as 1912, the writer made an investigation for the Department of Commerce, Washington, D. C., of the baling, handling and shipping of cotton for domestic use and for export. An excerpt from that report is quoted: "The public ginners are no doubt responsible for much of

the cut cotton resulting from improper ginning. Instead of ginning slowly, the ginning is done as rapidly as possible, with the inevitable result that the roll of seed cotton above the grids becomes choked and the saws plough through the stationary mass. The saw teeth not being sharp and also bent, will cause the cotton to be irreparably damaged."

A loss to the farmer will sometimes occur in the following way: If a short or poor grade cotton has been ginned and the gin has not been thoroughly cleaned before ginning another and better grade of cotton, some of the poor grade cotton which has been left in the gin will be mixed with the good grade. While the amount of the poor grade may be small, yet, when the cotton is sampled, if there should be any of the poorer grade in the sample pulled out of the bale, the price is based on the poor grade. In this way the farmer loses on his cotton.

The baling of cotton should also be more carefully done. It is often said that comparisons are odious, but a comparison of the Egyptian bale with that of the American shows the baling of the Egyptian to be far superior to that of the American. Southern factors should certainly adopt a better baling system as the cotton manufacturers can do

little to improve these conditions. It would be desirable to sample cotton as is done with Egyptian, so that it can be delivered to the mill without the bale being cut open. The size of cotton bales and the weight and quality of bagging used should be standardized. Cotton should not be exposed to the weather as this exposure certainly damages the cotton, causing it to be stained and off-color.

In talking recently with a cotton broker, a case was cited in which the farmer had a considerable amount of damaged cotton due to exposure, and at least 60 pounds of this damaged cotton was picked from each bale. Under such conditions, when cotton is tendered on the market, an unscrupulous buyer will take advantage of the farmer by claiming his bale is off-grade because of discoloration on outside of bale.

The whole question is a serious one for the cotton manufacturer, not only because of poor ginning and handling of the cotton, but because of the mixed grades that are being tendered. Any bale of mixed grade, whether mixed in the gin, or such as half-and-half, is very difficult to manipulate and causes considerable trouble and loss, and whatever is done to get the farmer to select the best seed should have

the full support of cotton manufacturers. If it were possible to put all gins under the supervision of the State, so that the ginning and distribution of seed could be controlled, it would be a great step in the right direction.

Both cotton manufacturers and farmers know where the trouble is, but until something is done there will not be any remedy.

Silver Anniversary of Georgia Mill Men.

Atlanta, Ga.—Celebration of the organization's twenty-fifth anniversary will feature the annual meeting of the Cotton Manufacturers' Association of Georgia, which will be held in Atlanta in May. The new Atlanta-Biltmore Hotel will be convention headquarters and the sessions will be held in the magnificent ball room of this hostelry, said W. M. McLaurine, executive secretary.

George S. Harris, president of the Exposition Cotton Mills, is president of the association, and in addition to Mr. McLaurine, the other officials are: T. J. Callaway, vice-president, Milstead Manufacturing Company, treasurer; S. Y. Austin, recently made general sales director, Callaway Mills, Inc., New York, vice-president.

Shrewd Belt Buyers Favor SLIP-NOT

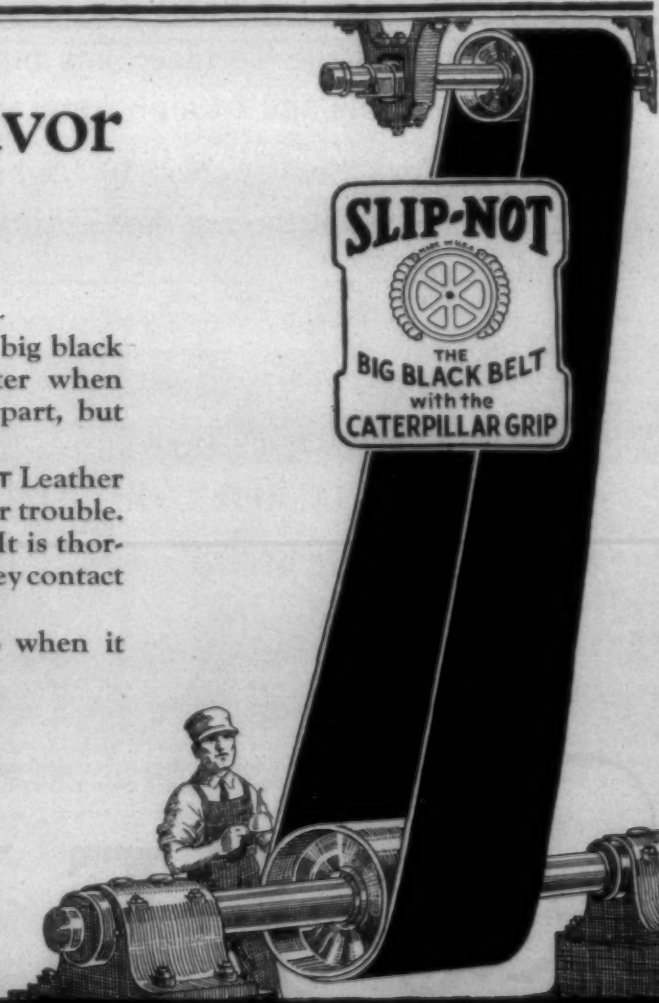
When old-time belt users are first introduced to the famous big black belt they readily admit that it looks like *real* belting. Later when they actually put it to test they say it not only looks the part, but that it *actually is!*

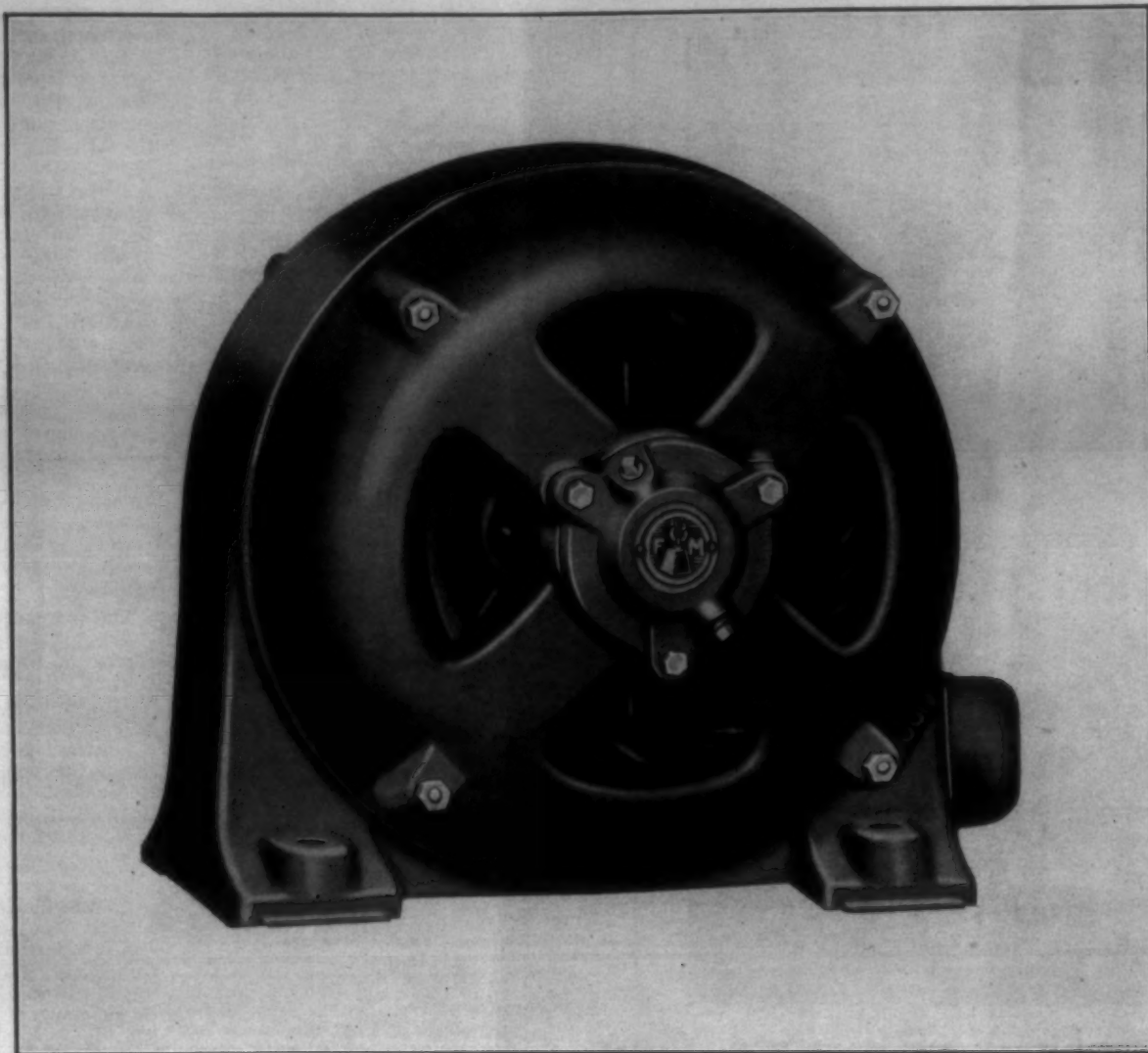
We honestly believe no other belting is as good as SLIP-NOT Leather Belting. It does what it is supposed to do without fuss, bother or trouble. It will withstand rough treatment, heat, cold and moisture. It is thoroughly waterproofed, and its perfect surface gives you real pulley contact from the very moment it is installed.

You could get along without SLIP-NOT—but why do so when it promises such satisfying service for transmitting power?

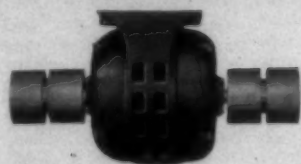
No doubt there is a SLIP-NOT dealer within easy reach of you. If not we shall be glad to have you write us direct about your belting problems.

SLIP-NOT BELTING CORPORATION
KINGSPORT, TENNESSEE





Specially designed to save money in textile mill service



Overhead motor for four-frame drive.



Totally enclosed ventilated motor for individual drives in open and picker rooms.

The special conditions encountered in driving textile machinery demand a highly specialized motor. And that is what the Fairbanks-Morse Ball-Bearing Textile Motor brings to the textile mill.

It is not an ordinary motor adapted to textile service, but a motor in which every detail has been worked out to save money on textile drives.

The ball-bearing construction—the motor betterment that Fairbanks-Morse gave to industry—permits the use of compact bearing housing with snug fitting felt washers that seal the oil in and the dirt out; a feature that never fails to win the appreciation of textile men.

These sealed bearings conserve lubricant and simplify oiling. Lubricating is a twenty-minute job once a year. More important still, there is no spatter of oil to shorten the life of the insulation and motors can be located close to the machinery without danger of oil damaging the product.

There is a special Fairbanks-Morse ball-bearing motor for every textile machine drive; a motor that adds special advantages to those basic advantages of the Fairbanks-Morse motor—its proved economy of current and 75 per cent reduction of wear and repairs.

The coupon below will bring a special book on motors for the textile industry.

FAIRBANKS, MORSE & CO., Chicago

Manufacturers Electrical Machinery, Pumps and Oil Engines

Sales Offices and Service Stations

Atlanta, Ga.

Charlotte, N. C.

FAIRBANKS-MORSE ball bearing motors



Fairbanks-Morse gave the ball-bearing motor to industry

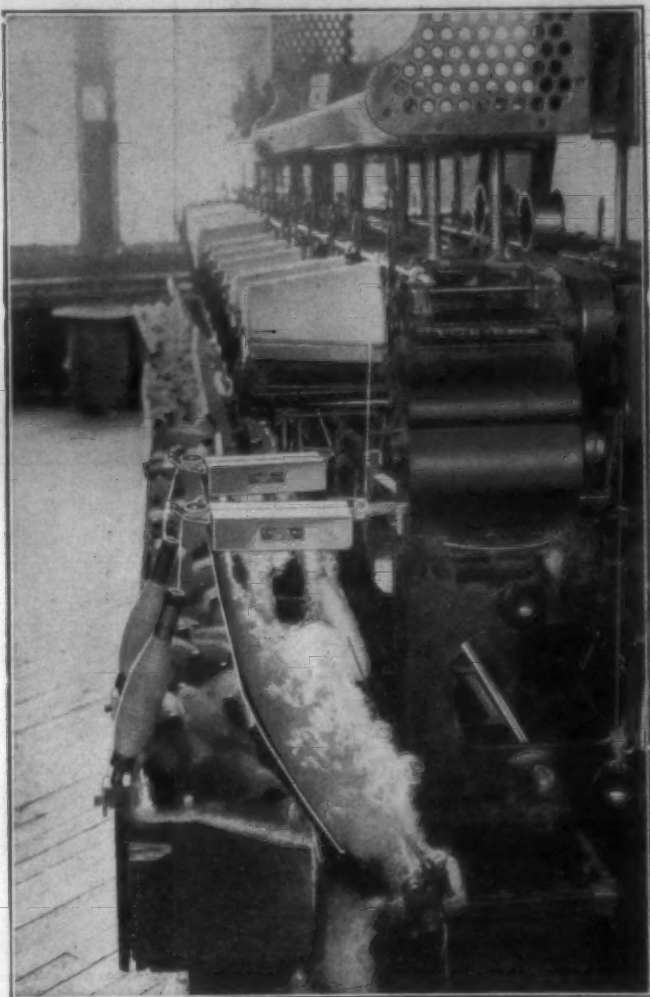


Fairbanks, Morse & Co.,
Indianapolis Factory,
Indianapolis, Ind.

Please send me a copy of your bulletin of Fairbanks-Morse ball-bearing motor for textile mills.

Name _____

City _____



Mr. Knitter—Do You Realize Your Loss From Waste?

How often do your knitting machines stop because of slubs—heavy and light spots in the yarn?

Do you know the loss of production from this cause? Do you know the amount in dollars and cents—that is, lost in waste that is thrown under the cutter's table due to cutting out holes through the use of imperfect yarn?

Do you realize the difference in production between running good yarn and bad yarn? With labor high, even the same percentage of waste in manufacturing becomes a heavier charge against your costs. Are you taking the best means of meeting this situation?

The successful men in the production of knitted textiles are those who, under the pressure of high prices, make use of the most effective methods of avoiding waste in manufacturing operations.

A Knitter can cut down waste in his plant and increase his production by using the best grade of yarn—that is, free as possible from imperfections. If a lower grade contains even one more imperfection to the mile of 30/1, it means fourteen more imperfections to the pound—fourteen thousand more imperfections to the thousand pounds; one thousand pounds is a small quantity to the user of yarn. Fourteen more imperfections is a severe handicap in the manufacture of any product.

You can positively cut down the waste in production by equipping your winder with the Eclipse Yarn Cleaning Device. By using this cleaner, any grade of carded yarn can be made a ninety per cent better knitting yarn. You cannot appreciate this fact until after you have used the Eclipse Yarn Cleaner.

If you knit direct from cones, take this vital matter up with your "spinner"—he can deliver you a better yarn.

Ask us to send you full information—or better still—we will send our representative to give you an actual demonstration upon your request. When you write, please mention the type of winder or spooler you use.

Eclipse Textile Devices, Inc.

Elmira, N. Y.

Makers of

Automatic Yarn Cleaner, Automatic Stop Motion, Yarn Tension Device
Eclipse Van Ness Dyeing Machine

Pacific Mills Wins Basketball Tournament

The Southern Textile Basketball Tournament, played in Textile Hall, Greenville, S. C., was won by the Pacific Mills, Columbia, S. C. The Pacific team also won the championship last year. The girls' team from Monaghan Mills, Greenville, won the Class A championship for the girls' teams.

Championships were decided Saturday by final games in the various classifications as follows:

Pacific Mills, of Columbia, defeated Judson, of Greenville, 41 to 25, for Class A boys championship. Pacific also won the tournament last year.

Piedmont defeated Pelber, 26 to 24, for the Class B boys championship.

Monaghan, of Greenville, defeated Leaksville, of North Carolina, 43 to 10, for the girls' champion in the Class A division.

Piedmont won the Class B boys' championship by defeating Pacific, of Columbia, 25 to 19, in the final game.

Whitney girls won the Class B girls' championship by defeating Saxon girls, 22 to 18, in the closing game of this division.

Woodside girls won the Class C division championship, defeating Seneca, 24 to 23.

Consolations.

New Holland, of Georgia, won the Class A boys' championship in the Consolations by defeating Monaghan, 46 to 24.

Whitmire won the Class B Boys' Consolation championship from Pacific, 22 to 16, in the final game.

Greer won the Class C Consolation championship among the boys by defeating American Spinning Company, of Greenville, 22 to 21.

There were no Consolation titles in the girls' division.

At the close of the tournaments handsome trophies were presented each winning team.

Foul Shooting Contest.

Robert Nolan, of Monaghan, Greenville, won first prize in the foul shooting contest, and Carlisle Chandler, of Judson, finished second. Each tied with 14 out of 15 shots in the first round, and in the second trial, Nolan shot 11 out of 15 tries, while Chandler made nine out of 15.

Miss Annie Gunter, of Pacific, won first prize in the foul shooting contest among the girls, while Miss Ella Kirby, of Pacific, won second prize.

All-Star Team.

The All-Star team, selected by the referees, won as follows: Ingram, of Pacific, forward; Nolan, of Monaghan, forward; Paul Barbare, of Judson, center; Martin, of Pacific, guard, and Oeland, of Converse, guard. Each was presented with a trophy for the All-Southern distinction.

National Association Meets in April

Announcement is made by Secretary H. C. Meserve that the spring meeting of the National Association of Cotton Manufacturers, whose offices are in Boston, will be held in

Washington on April 6, 7 and 8, and that an invitation has been extended to President Coolidge to address the organization.

The trip to Washington will be made by special train leaving South Station, Boston, at 7:20 on Sunday evening, April 5, and members of the association living in Providence, New Bedford and Fall River will join the party in Providence. Headquarters will be at the New Willard Hotel, and the program is unique, in that there will be only two business sessions, one on Monday afternoon, April 6, and the other a banquet on the evening of the same day, when it is hoped that President Coolidge will speak.

Tuesday and Wednesday, April 7 and 8, will be devoted to visits to government buildings and special tours, including trips to Mount Vernon and to the tomb of the Unknown Soldier. There will also be extension trips to New Orleans, Atlantic City and Pinehurst. A tourist company will have charge of the itinerary.

The executive committee in charge of the arrangements for the spring meeting consists of Morgan Butler, New Bedford, chairman; Robert Amory, A. E. Colby and Russell H. Leonard, of Boston; Russell B. Lowe, of Fitchburg; W. Frank Shove, of Fall River, and William B. MacColl, of Pawtucket, R. I. Mr. Butler is president of the association and the son of United States Senator William M. Butler.

Automatic Roving Check.

A device known as the automatic roving check which, it is claimed by its inventor, G. Roy Barksdale, of Greenwood, S. C., will accomplish for the spinning frame what the battery now does for the loom in cotton mills. Mr. Barksdale's patent was issued July 24, 1923, and the invention has been subjected to tests of all kinds since that time. The American Thread Company, at Wilimantic, Conn., accepted 400 of the appliances on trial last year. The company was satisfied with the tests and has offered to purchase the appliances outright. The Abbeville, S. C., cotton mill will install 1,000 of the devices in the next few days. The appliances will be manufactured by the Automatic Roving Check Company, of Amsterdam, N. Y., where the main offices and shops will be located with the Southern branch in Greenwood, S. C. Directors of the company are: G. R. Barksdale, C. B. Stewart, C. C. Collette and W. T. Bailey.

Treatise on Textile Industry.

The Bureau of Standards announces the publication of Technologic Paper 269, "Specifications for Constructing and Operating Heat-Transmission Apparatus for Testing Heat-Insulating Value of Fabrics," by P. D. Sale.

Official distribution is restricted to public service libraries, technical journals, and co-operating experts who co-operate in the work. Others may purchase the publications from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 10 cents.

Spinners to Meet in Charlotte

THE Spinners' Division of the Southern Textile Association will meet at the Chamber of Commerce in Charlotte on Friday, March 13. Carl H. Harris, chairman of the Division, will preside.

A questionnaire has been prepared which will form the basis for the discussions at the meeting. In sending out this questionnaire, Mr. Harris says:

"We realize that these questions cover a very small portion of the work of this department that could be discussed with mutual advantage to all those attending, and it is not our aim to confine the discussions to these particular questions.

"Our aim has been from the first to get together and let each man bring up the problems that are uppermost in his mind and then combine the knowledge and experience of all those present in an effort to shed some light on the subject that will be of advantage to the one seeking information and to the industry as a whole.

"Let me further urge that you not only come prepared to help us solve the following questions, but come seeking information along whatever line you may desire."

Questionnaire.

The questionnaire is as follows:

1. Why is it that the English spinners can run with considerable higher relative humidity than we can without experiencing the resultant ill effects of lapping up, rusting rings, etc.?

2. What degree of relative humidity have you found gives you best results?

3. What outside shape and size bobbin will give best results for spinning 30s warp yarn, filling wind with 1 1/4-inch ring?

4. Does it increase the breaking strength to spin warp yarn with filling build?

5. Will you have less high bobbins if they are constructed to go further down on the shoulder of the spindle than is the customary practice?

6. What flange ring would you specify if renewing for 30s warp?

7. In an effort to improve the running of 42s filling spun from 1-inch cotton which would be the best from a mill standpoint, to change a 7-inch travis to 6-inch, raise the spindle roll 1 inch and buy a 1 inch shorter bobbin. Or increase the diameter of the present bobbin 1/8?"

8. Will increasing the diameter of the bobbin 1/8 inch help the running of the spinning as much as reducing the size of ring 1/8 inch?

9. Do your bolsters wear more on one side with the tape drive than with the band drive?

10. Do you know of any treatment for bands that will increase their life?

11. If you were renewing spindles on 30s and 40s would you specify clutch or plain spindles? Why?

12. What spindle speed would you recommend for 30s warp, filling build made from 1-inch cotton? For 40s filling?

13. Is there any advantage to a light unweighted middle roll on medium counts made from around 1-inch cotton?

14. Will the crossing of the roving between the middle and back roll effect the running of the work to any extent?

15. How much pressure should we have on the different rolls for 30s and 40s yarn made from 1-inch cotton to get the best possible break and evenness?

16. What advantage can be derived from ball bearing top rolls?

17. Have you been able to run a reduced spindle speed with tape drive?

18. Have you had any experience with the new O flange ring?

19. Will a long draft cause more variation in numbers than a short draft?

20. What method of changing gears is used in your mill to keep the weight of the finished product right?

21. Will putting more than just enough twist in roving to keep it from stretching when pulling off help the running of spinning?

22. What is the biggest cause for gouts and slugs in yarn?

23. What are the biggest things you have done in the spinning room during the last year to reduce the variation of numbers?

Japan Making Artificial Silk on Extensive Scale.

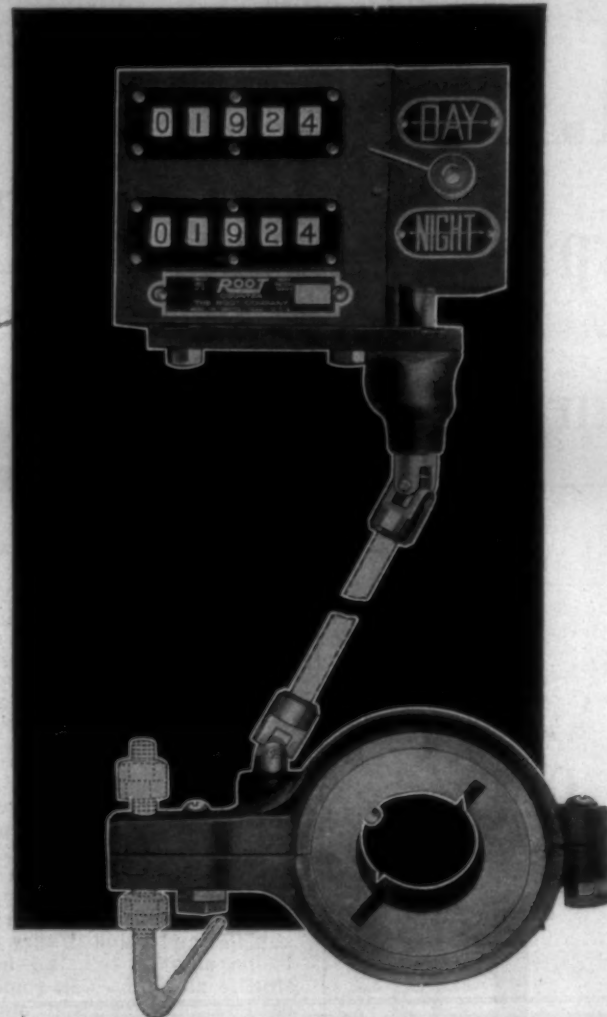
Japan, the largest producer of real silk in the world, is beginning to build up a fairly extensive productive capacity in rayon, or artificial silk.

The Mitsui interests, big factors in the real silk trade, are planning to begin construction on a rayon plant costing 110,000,000 or more, toward the end of this year. This will mean a considerable increase in Japan's production of rayon next year, but even then probably will not give that country any exportable surplus.

American Silk To Be Seen in Art Section of Louvre.

Paris.—Coals are coming to Newcastle when American silks, for the first time, are soon to be given the honor of exposition as art designs in the decorative art section of the government's Louvre Museum. France has always regarded Lyons as the center of the world's silk industry and the originator of the most artistic silk designs, so it was a decided shock to have American textiles accorded such an official honor, particularly as the United States is not participating in the International Exposition of Decorative Arts which is to open in March.

This collection of silks, recently shown in New York, consists of 2,500 yards of printed silks, tinsels and cut velvets in a hundred color schemes of thirty designs based on the work of the French iron worker, Edgar Brandt, who made the great iron doors for the Verdun monument. It is the fact that the American silks were inspired by Brandt's art that enables the government to stand sponsor for an exhibit of foreign goods competing directly with one of France's leading industries.



What is a ROOT Pick Counter?

Just a small instrument, automatic in action, which, when attached to a loom, correctly records the picks. It increases production as one mill representative states "Our weavers now run the looms during the noon hour, and sometimes start them up before starting time and keep them running after stopping time, this, we believe, is the cause of our increased production."

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Practical Discussions

By

Practical Men

Stock in Process.

Editor:

How many times is the stock in process handled in going through an ordinary cotton mill?

"Young Super."

How About Double Drafts?

Editor:

As we hear considerable again about the feasibility of very long or double drafts, will you please have some of your subscribers tell me what they have learned about this new system? How is the draft figured out?

"Student."

How to Tell the Hand of a Shuttle.

Editor:

Can you tell me how to tell the hand of a shuttle? I have a large variety of looms and I have to order many kinds of shuttles. Some of my right hand looms use left hand shuttles while some of my left hand looms use both left and right hand shuttles and I find it very confusing to be able to tell the hand of a shuttle at sight. Can some of your readers put me right and left on this?

"H. A. P."

Horse Power of Belts Depends on Speeds.

Editor:

I am a young textile mechanic away out in Texas and want to learn how to find out the horse power of belts. I am told that a one-inch single belt will drive as much as a single 10-inch belt if properly speeded. Is this so, and how can I find the rule to figure this out?

"Mechanic."

Running Two Different Hanks.

Editor:

I am much puzzled by the use of two different hanks of roving on my frames. When I use two three-hank rovings together I know that I am using the equivalent of $1\frac{1}{2}$ hank. In other words, I divide 3 by 2 and the answer is $1\frac{1}{2}$. But when I use a 2 hank and a 3 hank together this rule does not work. How can I learn the right rule?

"Jabes."

Answer to Pal.

Editor:

It would not do to change different size pulleys the same amount. For example, when you increased the diameter of your 24-inch pulleys you made a difference of $\frac{1}{4}$ or 25 per cent larger in diameter. Now one-fourth of the 32-inch pulley is 8 inches, and 8 inches added to the 32 inches, of course, makes the

change to 40 inches. Now the 40-inch pulleys will drive your frames at exactly the same increased speed as the 30 inches. Another way to prove this example is by proportion as follows: $24:6::32:8$. Still another way: Suppose your cylinders are revolving 800 R.P.M. with a 24-inch pulley, at what speed will your cylinders run with a 30-inch pulley. Example: $800 \times 30 \div 24 = 1000$. This shows an increase of 200 R.P.M., or 25 per cent. Alright! Now suppose your 32-inch pulleys drive your cylinders 800, what pulleys must you have on to drive them 1000 R.P.M.? Example: $32 \times 1000 \div 800 = 40$ pulley and which increases both the speed and the pulley 25 per cent. Your problem is really one of proportion or percentage. In other words, it is the relation of one pulley to another that counts. I hope to have made everything clear to you.

"Jack."

Answer to "Night School."

Editor:

As you sign yourself Night School, I take it that you are a young textile student and that you are studying at night. All of this is very commendable, and I am glad to answer your questions.

It is true that all yarns are more or less uneven and compressible. But, nevertheless, they are generally quite round and possess a general average diameter. And although they are compressible, while the yarns remain under no pressure they remain naturally of one constant dimension and retain this same diameter until some process crowds them into so small a space that they are compressed.

However, there is a good rule for getting at the natural yarn diameters as follows:

Multiply the constant number 840 by the yarn number, and extract the square root. The answer will be the yarn diameter. It will also give the actual amount of this yarn which can be laid side by side in the space of one inch.

What is the diameter of No. 10 yarn? Example:

$$840 \times 10 = 8400 = 91$$

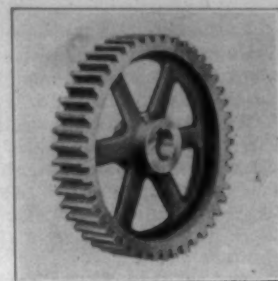
This means that No. 10 yarn equals 1-91 of an inch in diameter.

"B. D. F."

Answer to "New Timer."

Editor:

I notice that New Timer is seeking valuable advice regarding what is considered a reasonable variation in the weight of his yarns. In the first place I would say to New Timer "go slow." Do not look for a reasonable variation. Just put your whole strength into the effort of



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Spur Gears

3 pitch 35 inches or smaller.

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could only result from a knowledge of how to prepare materials to scientifically meet the problems of the textile plant.

Ask your supply man



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keeping your yarns on the numbers. Watch the weights closer than a cat watches for a mouse. Forget any allowances for variations. The chances are that you will average very close to the die set. However, if you should become so unfortunate as to get off of the number, be mighty careful that it does not exceed two per cent too light nor too heavy. Remember that you cannot always be two per cent off one way—that is, too light. You must average on the number and thereby not vary more than two per cent away from the number either way. Nobody is going to stand for your giving light weight all of the time, nor too heavy all of the while. For when you are too light your yarn is lean. And when your yarns are too heavy you fail to produce the length wanted. In connection with this subject, it will do you no good to lay awake nights nor dream about it nor worry yourself to death day time. You must simply work, work, work! to watch those weights of the yarns. There is no trick about it. Keeping numbers is a straightway scientific job. But you didn't ask how to keep numbers, so I will stop. "Charlie."

Answer to Tenn. Reader.

Editor:

There is nothing in your way at all. Take the job and go to it and make it a good job for you to keep. Many men have made good with even less education than you have. One man who could hardly read and write worked his way up to over-

seer and then to superintendent. Soon afterward he built a new mill and became its general manager. It was a very successful mill while he lived and is so today.

Some of our most progressive men could not read and write, have forged ahead and are today holding up good positions. They also have fairly good education, because they worked and studied. They read the textile papers and kept posted. Be sure to take a couple of good textile papers and read them closely. Super.

Answer to Second Hand Weaving.

Editor:

You were wise not to expect your overseer to spend his time teaching you lessons in technical matters. He is too busy, and he must keep himself fresh, strong, and well for his big responsible position.

There is a good deal to a reed, and when ordering you should give the particulars as follows:

1. Dents per inch.
2. Spread on how many inches.
3. Width between ribs.
4. Width over all.
5. Width of ribs.
6. Number of wire to be used.
7. Width of the end bars.
8. How many reeds wanted.
9. Price to be paid.
10. When to be delivered.
11. How to be shipped.
12. What sley to mark on the reed.

The rule to figure out a new reed is as follows:

Subtract 1 from the sley, divide the result by the ends in a dent and multiply by the constant 95-100.

Example: The sley of a certain cloth is 48 and there are to be two ends in a dent, what reed is necessary to order?

$$48-1=47 \div 2=23.5 \times 95-100=22 \text{ 32-100 dents per in.}$$

Proof—the reed number is 22 dents per inch, what will be the sley of the cloth produced with same? Example:

$$22 \div 95-100 \times 2 + 1 = 48 \text{ sley.}$$

"Designer."

Answer to Pal.

Editor:

In answer to Pal's inquiry through the Bulletin, I will say that it might naturally seem to Pal that if his 24-inch pulleys are increased by 6 inches that his 32-inch pulleys should also be increased by 6 inches to maintain the same proportion of speeds.

But such is not the case and his superintendent had done a little calculating before handing down his orders to affect a room of the mill.

The difference in the change is simply this: When he changes his 24-inch pulleys to 30 inches he thereby changes his pulleys 6-24 and if he increased his 32-inch pulleys to only 38 inches the increase would be but 6-32. Now to keep the machines running the same proportionate speeds the 32-inch pulleys must also be changed 6-24. Now a short calculation done in

simple proportion will show 6-24 of 32 inches to be 8 inches.

$$24:6=32:\times 32$$

6

192

$$192 \div 24 = 8$$

Then if he increases his 24-inch pulley 6 inches he must increase his 32-inch pulley 8 inches to keep the same proportion of speed.

It may also be seen that this change in either case will amount to 25 per cent, as 6 inches is 25 per cent of 24 inches, so is 8 inches 25 per cent of 32 inches.

$$6.00 \div 24 = .25$$

$$8.00 \div 32 = .25$$

Hoping that this bit of information will be some help to Pal.

H. H. H.

Answer to G. B.

Editor:

Bobbins become bent, as you say, by getting caught on the cleaning machine; also by being caught on the loom owing to the timing arrangement being out of order.

Keep the bobbins off the floor. They get stepped on and box wheels roll on them. Occasionally a bobbin will get bent by hammering it into a shuttle. Stop it. A broken shuttle which got broken by jamming will bend a bobbin. A discharged bobbin from the loom and which, instead of falling in the tin box receiver, falls to one side and gets caught in the loom parts or in the belts, etc.

Overseer Weaving.

REEDS

Although our new Southern Plant has been in operation only four months, we have been compelled to operate both day and night to take care of orders from Southern mills for our high quality reeds.

Over 80 per cent of this day and night production has been on high counts, 48 to 67 dents per inch.

This alone will tell you there is here a reed plant at your very doors ready to give you the highest quality reed service to be had, excepting none.

In the personnel of our Staff are Expert Textile men with years of experience in mill problems. This expert service is at your command merely for the asking.

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Work of British Cotton Growing Association

GREAT Britain reports steady progress in her efforts to grow cotton within the British Empire and the results so far show that the Empire is capable of producing a great deal of cotton for the mills of Lancashire. The following report on the work being done by the British Cotton Growing Association, by W. H. Himbury, general manager of the association, appeared in the Textile Recorder.

What has already been accomplished by the British Cotton Growing Association in promoting and encouraging cotton cultivation in the British Empire is proof that a sufficient guarantee has been shown that the British Empire is capable of producing a very large quantity of excellent cotton, and it is only a question of time before the world's supplies will be augmented, and Lancashire reassured as to a sufficiency of the raw material.

The extension of cotton growing within the Empire to-day is chiefly one in which the construction of new railways—mainly in the African Colonies and Protectorates—is essentially concerned. So far as transport is concerned, the B.C.G.A. has never considered the question of the construction of railways solely from a cotton standpoint, but has taken a broader view, maintaining that the necessity for these railways was bound up with the economic development of these countries. The Association set out to promote cotton growing in the Overseas Dominions, Colonies and Protectorates, and it is estimated that some 250,000 bales will be produced this year.

Uganda, which so far shows the

best progress of any of the new fields, has produced 130,000 bales this year, as compared with 85,000 bales last year. Excellent progress is being made with the industry in this Protectorate, and a further considerable increase is virtually assured for the coming year. The cotton industry is the most important one in the Protectorate. It is a peasant crop entirely in fact, there is hardly a peasant in the country who has not his little cotton plot. The officers of the local Department of Agriculture deserve every credit for the energy they have displayed in bringing about such a successful industry.

The Sudan continues to make excellent progress, and at present immense efforts are being made to get enormous areas under cotton cultivation. Cotton growing is likely to play a very important part in the economic development of the Sudan. There are, however, several propositions, but perhaps the best is the Gezira, which embraces roughly the triangular area lying between the Blue and White Niles, with the apex at Khartoum. This has for some time been regarded as an ideal area for cotton growing, provided means could be obtained for raising the necessary water from the Blue Nile to irrigate the large area. The Makwar Dam, Senar, it is expected, will be completed in the near future, and so make it possible to supply water for next year's crop. The area to be brought immediately under cultivation by means of this Makwar Dam is 300,000 acres, and a much larger area than this can be put under cultivation without reducing in any way the water supply of Egypt, and there, are roughly 3,000,000 acres

of good cotton-growing land in the immediate vicinity.

Another proposition is Kassala, on the River Gash, 250 miles east of Khartoum. The river—which does not reach the sea—spills itself over a large fertile area. At present there are no means available for storing water. A railway has now Kassala with Port Sudan it is 216 miles in length. The work of construction commenced at the beginning of October, 1923, and the railway was opened on April 23, 1924, which can be considered a tremendous engineering feat. It is hoped ultimately to develop 70,000 to 100,000 acres in the Kassala area.

Other districts in the Sudan capable of development are Tokar, the area on the Nile from Khartoum northwards, and the area in the Southern Belt of heavier rainfall.

Kenya Colony and Tanganyika Territory are promising areas and the Authorities are fully alive to the possibilities several new railways are under construction, and money is also being spent on harbors and other transport necessities. In the native areas of Kenya, contiguous to Uganda, the industry is being encouraged. The estimate of the 1924 crop from Tanganyika Territory is 17,000 bales.

Nyasaland shows a great improvement on the past two years' working, the estimate for the 1924 crop being about 6,500 bales. Most of the cotton is grown by Europeans; the native crop, however, has been doubled. The development of the cotton industry here, as elsewhere must mainly follow the lines of production by native or peasant proprietors.

The Empire Cotton Growing Corporation lent the services of several

experts to continue the work of seed selection and the study of the various cotton pests, which here as in other parts of the world, cause the planters great anxiety.

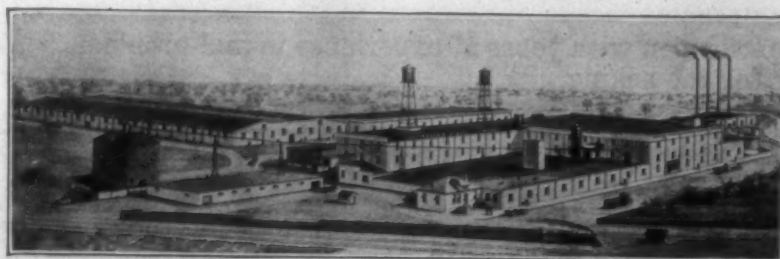
South Africa—A wave of cotton-growing enthusiasm is spreading through the Union of South Africa, where the Empire Cotton Growing Corporation have a strong staff of experts. In the Union of South Africa the cotton grown is of very satisfactory character. This country possesses a very large acreage of suitable land, namely, Northern and Eastern Transvaal, Natal, Zululand and the Cape Fear Province. The industry is developing rapidly. During the 1923-24 season about 8,000 bales of 500 pounds each have been produced, and it is estimated that during the coming season a larger acreage will be planted with cotton.

With regard to the newly-established colony of Southern Rhodesia, although it has been known that cotton can be successfully and economically produced, it is only lately that the question of cultivation upon an extensive scale has arisen. The production of cotton exceeded 1,500 bales this year; a very large acreage is being planted with cotton this coming season, approximately 50,000 acres, which should produce over 20,000 bales.

There are also splendid possibilities in Northern Rhodesia, and interest in the industry is being revived. It is estimated that some 15,000 to 20,000 acres will be planted this season, and the crop should reach 8,000 to 10,000 bales.

The Association is supplying large pneumatic ginning plants to both Southern and Northern Rhodesia.

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esia, similar to those which are at present working in Nigeria.

In Nigeria progress has also been made, especially in the Northern Provinces, where 20,000 bales of improved cotton have been produced this year, as against 12,221 bales for the previous year. The improved type has now almost entirely taken the place of the indigenous improved cotton reflects the great type, and the achievement with the est credit upon the local Agricultural Department. Districts not touched by the existing railway are now contributing quite a good proportion of cotton, and the Association is constructing new ginneries at suitable centres off the main line, but, of course, in cotton producing areas.

In the Southern Provinces of Nigeria efforts are being maintained to improve the native type, and some improvement is shown. About 8,000 bales have been produced this year.

India—The Associations interest in the Punjab venture is making satisfactory progress; the farm at

Khanewal has been developed, and some quite useful cottons are being grown, not only on the estate, but by others interested in cotton production, and it is only a matter of time before an appreciable quantity will be produced. A large power ginnery has been erected.

The Indian Central Cotton Committee has been at work some time, and already done very valuable work in preventing the mixing of Indian cottons; it is also giving very serious consideration to the important question of improved Indian cottons.

Fiji—Cotton growing is receiving attention in this colony; 101 bales of excellent Sea Island cotton were exported during 1923, and a considerable improvement is expected this year. The local Government has introduced new varieties of seed for trial.

Australia—So far Queensland is the premier cotton-growing colony in the Commonwealth, producing this last season over 9,000 bales of excellent cotton. The Queensland

(Continued on Page 30)

VOTE ON CHILD LABOR AMENDMENT

Including February 25, 1925

	Ratified	House		Senate	
		For	Against	For	Against
Arizona		35	3	19	0
California		69	9	36	3
Wisconsin		65	26	19	10
Partially Ratified					
*Arkansas		45	40	15	13
New Mexico		40	8	(11 to 10 for Ref.)	
Rejected					
Connecticut		7	231	1	33
Delaware		0	35	0	17
Georgia		3	173	0	34
Idaho		18	38	—	—
Indiana		—	—	16	32
Kansas		20	101	9	30
Louisiana		25	57	—	—
Massachusetts		9	204	1	33
Michigan		24	61	—	—
**Montana		86	11	24	29
Nevada		18	19	—	—
North Carolina		7	86	4	34
North Dakota		—	—	17	32
Ohio		35	92	—	—
Oregon		—	—	10	20
Oklahoma		24	81	19	24
Pennsylvania		—	—	4	43
South Carolina		0	124	0	44
South Dakota		26	73	5	36
Tennessee		23	63	7	24
Texas		16	111	2	20
Utah		8	43	2	18
Vermont		3	229	2	27
Washington		30	67	15	27
Wyoming		—	—	8	17

States Ratified	3
States Partially Ratified	2
Necessary to Complete Ratification	36
States Rejected	25
Necessary to Defeat	13
Legislative Votes For	843
Legislative Votes Against	2,524

*Arkansas Senate, by vote of 30 to 3, has withdrawn ratification. House will do likewise.

**Montana Senate rejected after House had ratified.

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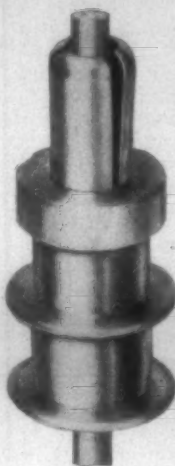
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Don't run your spindles with worn out whorls cut in by bands, which changes the speed of your spindles, therefore making uneven yarn. Let us change your whorls on spindles, repoint and restraighen same, and save you money.

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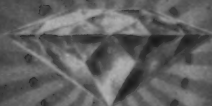
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Wilts Veneer Co., Richmond, Va.

Aniline Dyes

THE wonderful advance which has lately been made by British dye-stuffs manufacturers is an outstanding feature of modern industrial history. Relative to this subject some interesting facts were given by H. Lambourne, B.A., B.Sc., F.I.C., at the University College, Nottingham. Mr. Lambourne, during his lecture, made reference to the significant fact that prior to 1856 all dyes and coloring matter were obtained from natural sources, two classic examples of such colors, which have been in use for thousands of years, being Tyrian purple and madder indigo. The Tyrian purple of the ancients was of animal origin, and was extracted from a certain species of snail found on the shores of the Mediterranean, while indigo was, of course, of vegetable origin, being obtained from the indigo plant which grows in India and other tropical countries.

Discussing the source of the parent substances from which synthetic dyes proper are obtained, reference was made to the fact that in the early years of gas manufacture millions of gallons of coal tar were thrown away. Even at the present time, it was explained, there is a popular inception as to the origin of the coal tar colors, it being found that the impression often exists that the tar readily yields a large number of beautiful dazzling colors by a few simple chemical changes. Aniline does occur in coal tar, but in such small amount that the quantity is negligible in comparison with other substances evolved. It is from the conversion of benzene that aniline is derived. Aqua fortis or nitric acid changes benzene into a heavy oil known as nitro-benzene (oil of merbane) used in perfuming artificial oil of almonds, this process being known chemically as one of nitration. Further treatment by a metal such as iron or tin, in presence of an acid (spirits of salts of HCl) will convert nitro-benzene into aniline. That aniline existed in coal tar was shown by Runge as long ago as 1834, he obtaining a deep violet blue color with bleaching powder; Unverdorben having previously, in 1826, isolated aniline by distilling indigo, the name aniline is a modified form of the Portuguese or Spanish word "anil," meaning indigo, derived from the Arabic "nil." Thus "nil" indicates the blue dye, the same word being seen in Nile, the blue river.

Benzene was first prepared in large quantities in 1874, by C. B. Mansfield, an English chemist, working under the direction of Hofmann in London. Mansfield also isolated toluene, which enabled Hofmann to prepare toluidine.

The subject of aniline dyes will always, Mr. Lambourne observed, be associated with the name of William Henry Perkin, who was born in 1838, and at the age of 14 began to study chemistry at the Royal College of Chemistry, Oxford Street, London. When 17 he was promoted to be Hofmann's research assistant, and proceeded to investigate synthetic preparations of natural drugs. It was not generally known that Perkin was not trying to make

coloring matters, but actually he was endeavoring to prepare quinine from a derivative of toluidine by acting upon it with bichromate of potash and sulphuric acid. No quinine resulted, but a dirty brown precipitate. Perkin then tried the action of potassium bichromate and sulphuric acid upon a more simple substance, aniline, and this time obtained a most unpromising black mass, which, however, upon investigation, was found to yield a most beautiful mauve coloring matter.

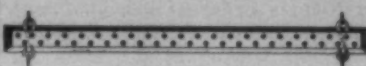
These experiments of Perkin were made at home in a rough and ready laboratory which he had fitted up. The mauve or aniline purple which he obtained was found, however, to possess all the properties of a dye, and resisted the action of light. Perkin isolated some of the solid substance by extracting the black mass with methylated spirit, filtering off the clear liquid and then evaporating the spirit. He showed this coloring matter to his friend and fellow worker, Church, who encouraged him to continue his investigations.

In June, 1856, Perkin sent samples of silk dyed with mauve to Pullar's Dye Works at Perth, and received from Mr. Robert (afterwards Sir Robert) Pullar, a reply, in which the latter said: "If your discovery does not make the goods too expensive, it is decidedly one of the most valuable that has come out for a very long time. The color is one which has been very much wanted in all classes of goods, and could not be obtained fast on silks and only at great expense on cotton yarns. I enclose you a pattern of the best lilac we have on cotton; it is dyed only by one house in the United Kingdom, but even this is not quite fast and does not stand the test that yours does, and fades by exposure to air. On silk the color has always been fugitive: it is done with cudbear or archi land then blued to shade."

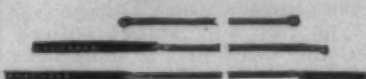
Perkin then made a few ounces of this dye and visited Pullar's works, where experiments were made upon cotton goods, but as no suitable mordants were known, only pale shades of color were produced. Calico printing was also tried at a print works, but the printers were not enthusiastic as the color would not resist the action of chloride of lime like madder purple, although it was fast to light and washing. In spite of the fact that aniline was expensive and the results generally were not very encouraging, Perkin had made up his mind to start the manufacture of this new dye, and Mr. Lambourne afforded an interesting account of this early ambitious commercial venture, pointing out that one of the difficulties encountered was in the dyeing of large amounts of silk, where unevenness resulted owing to the affinity of the fibre for the dye.

This trouble was successfully overcome after a number of experiments of dyeing the silk from a soap bath, a pure and even color resulting, and since then the soap bath has been much used for dyeing silk with magenta, etc. This same dye-stuff, mauve or aniline purple, was

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found to be of use in dyeing of cotton, a mordant being, however, in that case necessary.

Perkin and Pullar independently discovered the use of tannic acid and a metallic oxide for this purpose, which process, in a modified form, was to receive a very extensive use later.

Messrs. J. Black, of Glasgow, first used this method in calico printing. The discovery and manufacture of this first coal tar color by Perkin led to a great development of this new industry both in England and France. Thus attempts were made to prepare mauve from aniline by this method, none of which, however, seemed to be as simple or economical as by the use of bichromate of potash.

Later the chemical constitution of mauve was investigated and a number of different shades of color were produced from it, which received the general name of the "Safranines." All these dyes were found to undergo the same series of changes when treated with oil of vitriol. Next in importance came the class of colors known as the Triphenylmethane or Rosaniline dyestuffs, the first of which was made by Verguin, a French chemist. Aniline was treated with a fuming liquid known as tetrachloride of tin, and a beautiful purple color resulted, which first received the name of Roseine, it being now called magenta or fuchsine or rosaniline. Medlock and Nicholson in 1860 beginning the large scale preparation of magenta by the action of arsenic acid upon aniline. This method of manufacture was in use for many years; but at the present time a mixture of nitrobenzene from filings and hydrochloric acid is employed in place of arsenic acid.

The first blue dye to be prepared was aniline blue made by M. M. Girard and Delaire. Unfortunately this dye and other similar blues, although readily soluble in spirit, were insoluble in water. This, of course, was a great drawback, and it was due to E. C. Nicholson that water soluble dyes were obtained. Thus treatment of aniline blue with sulphuric acid produced what was known as a sulphuric acid, and this derivative was perfectly soluble in water. Being an acid it would neutralize bases such as caustic soda to form salts, which themselves are freely soluble in water, producing a now colorless solution of alkali blue or Nicholson's blue, this process of Nicholson's being now very widely used for the preparation of a large number of water soluble acid dyestuffs. The wool is dyed a fast blue color because the fibres have an attractive or affinity for the dye, so that the latter is fixed firmly in the fabric.

Generally speaking, silk and wool, which are animal fibres, have an affinity for most dyestuffs which allow of direct dyeing. On the other hand, cotton and line, which are vegetable fibres, often refuse to fix the color, and some means had to be taken to induce the color to stick fast to the fabric. By impregnating the cotton with a third substance, which would keep fixed on the fibres and which itself had an affinity for the dyestuffs, the desired

result could be brought about.

Mr. Lambourne afforded interesting details regarding processes patented by Perkin during the progress of his investigation, including that by which dichloranthracene could be sulphonated by means of ordinary sulphuric acid, alizarin having been for some years made by this method at the Greenford Green Factory. The output was only one ton in 1869, but it had risen to 40 tons in 1870, and 229 tons in 1874, Perkin's firm having the monopoly of the English markets, as it was not until 1874 that German competition began to be felt.

A fresh impetus was given to the artificial dyestuff industry by the discovery of the azo colors, for which Peter Griess, a chemist at Allsopp's Brewery, Burton-on-Trent, was mainly responsible. Many other basic substances besides aniline were found to behave similarly when treated with nitrous acid and then coupled up to a third substance, for example, toluidine, naphthylamine, etc. In 1877, Griess patented in England a large number of azo dyes, although the azo period proper was between 1886 and 1901, when the large scale manufacture was in full swing. During that time more azo colors were produced than all other dyestuffs put together.

Dealing with the production of indigo, the oldest of coloring matters, Mr. Lambourne pointed out that the triumph of artificial alizarin over natural madder was accomplished in a relatively short space of time, but the manufacture of synthetic indigo under such conditions that it would compete successfully with the natural product was a very different story. The names of Erdmann, Dumas, Laurent, Liebig and Fritzsche were associated with the early investigations of indigo, which began about 1840. For the next 20 years numerous formulae were put forward to represent the chemical constitution of indigo, and Baeyer and his pupils did much work in elucidating its structure, but it was not until 1883 that Baeyer finally succeeded. He had previously in 1880 prepared indigo artificially, starting with cinnamic acid, and the great German firm, the B.A.S.F., began a systematic technical investigation. During the next few years no fewer than 152 German patents were filed, not one of which was a technical success. In 1890 Heumann synthesized indigo from a certain substance, but even this simplified method proved impracticable on a large scale, and it was not until 1897 that he patented the process that was to threaten the natural indigo industry.

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Greenville, S. C.—Because of the improved outlook in the textile industry, the Southern Franklin Process Company in this city is now operating its plant both night and day.

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DAVID CLARK
D. H. HILL, JR.
JUNIOUS M. SMITH

Managing Editor
Associate Editor
Business Manager

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Fourteen Years Old

WITH this issue the Southern Textile Bulletin completes the fourteenth year of its life, and although still the youngest of the textile journal, holds a position of which it can, justly, be proud.

The first regular issue appeared on March 2, 1911, but on January 10, 1911, we had printed a "specimen edition" which was used to show prospective advertisers the style of journal that we would publish.

Although we, at first, went through several hard and lean years, the Southern Textile Bulletin has grown each year until today we rank as one of the "Big Four" in textile journalism.

Several textile publications that were in business when we began publication have passed into the discard and at least six publications that were launched have failed to make good and their inaugurators and backers suffered severe financial loss.

From the beginning we had the idea of making our publication of service to the textile industry and we attribute our success to the fact that we have been able to be of real service.

We have sought to promote friendship and good feeling between the cotton mill manager and the operatives, and in spite of the many hard things said about us by labor union leaders, the operatives now realize that the Southern Textile Bulletin has been their best friend.

We have eternally fought Federal control of the textile industry, and although we have always opposed the labor of young children, we have been branded as an advocate of the employment of children of tender years.

During the past eight months we have, often to the neglect of our own business, spent most of our time in defeating the proposed Federal Child Labor Amendment.

For our services we have not received one cent of compensation. We felt that we could be of service to the textile industry by preventing Federal control and we gladly gave service to the best of our ability.

In many other matters and other ways we have rendered service and as we have served we have grown.

As we reach the fourteenth milestone, we feel justly proud of the esteem in which the Southern Textile Bulletin is held throughout the textile industry of the South and as the industry prospers and grows so do we expect to prosper and grow.

The English Buying Cotton

DURING the past week exports of cotton have passed the 6,000,000 bale mark, and as there are five months yet before the end of the cotton season, we can only surmise to what figure exports will reach this season.

There are some who estimate exports will reach 7,500,000, but they may go far above that figure if the cotton is available, and it is highly probable that there will be less cotton in the United States on August 1, 1925, than on August 1, 1924.

It would not surprise us to see American mills idle for lack of cotton this summer. We know that this statement will be received with amusement, especially in view of many unfulfilled predictions of a cotton scarcity during recent years, but it is certainly a possibility.

Texas has very rarely raised a good crop of cotton without abundant winter rains and this season has been unusually dry.

According to one Cotton Association, boll weevil emergence in Mississippi is far above the average and boll weevil damage may be far above that of last year.

During the past few years we have only raised one crop in excess

of 10,300,000 bales, and two vital points against a large yield for 1925 have already been established.

If we get a bad spring or summer and it begins to look like a crop of 12,000,000 or less, holders of cotton will be difficult to dislodge, and with cotton moving out of the country at the present rate, we realize that some mills may find it difficult to secure their summer supplies.

The English as a rule beat American spinners in buying cotton because they study conditions and possibilities, and the fact that they are buying freely at present prices seems to indicate that they see danger ahead.

There are always crop scares during the growing season and they may be very violent this year.

Cotton purchased March 1st always shows profits. Sometimes it is lower in June than on March 1st, but always between March 1st and June 1st there is a profit on March 1st purchases. It is the only rule in the cotton market that has never failed.

The reason is that there are always crop scares which boost the price.

The stage is set for some good scares this season.

Another Farmers' States' Rights League

UP in Michigan the "Michigan Committee for the Protection of Children" has been writing letters to the Michigan legislators urging ratification of the Child Labor Amendment.

The personnel of the executive committee of this organization, about 60 in number, according to a Michigan paper, includes such personages as United States Senator James Couzens and Woodbridge N. Ferris, Charles B. Warren, William A. Comstock, Democratic National Committeeman, labor officials, judges, members of Congress and others.

Does anybody believe that the distinguished men were active members of the organization or took any active interest in its work.

The truth is that the "Michigan Committee for the Protection of Children" is exactly the same kind of organization as our Farmers' States' Rights League.

They practice the very tactics for which they abuse us.

A Statement of Last April

AFTER our fight before the Judiciary Committee of the House last March, Wiley Swift, of Greensboro, N. C., an official of the National Child Labor Committee, published an article in the April issue of their magazine and from that article we quote the following:

"With every passing year of official opposition to the Federal Child Labor Amendment grows less. Last year two States, North Carolina and South Carolina, had officials speaking in opposition; this year South Carolina dropped out, leaving North Carolina to stand officially alone

with the antis. How much Mr. David Clark, editor of the Southern Textile Bulletin, had to do with getting North Carolina's three official representatives to Washington does not appear."

In view of the recent expression of opinion by the various State Legislatures we wonder what Mr. Swift would have to say now.

Larger Rejection Vote

THE advocates of the Child Labor Amendment have never fought fairly and to avoid answering arguments have persistently sought to attack those who opposed the amendment.

When the representative of the American Federation of Labor wrote his story about the Farmers' States' Rights League the advocates thought that they had a vehicle with which to turn the tide but since then the several States have overwhelmingly defeated the amendment.

Their Farmers' States' Rights League story fell absolutely flat because people persist in considering the amendment upon its merits or lack of merits and refuse to allow a smoke screen to be put up.

Cloth Exports Increase

Exports of cotton manufactures during January registered a sharp increase over figures for the same month of 1924, according to statistics announced by the Department of Commerce.

Total exports of cotton manufactures last month were valued at \$13,177,380, compared to \$9,256,105 in January, 1924.

Cotton cloth exports nearly doubled last month, totalling 51,819,000 square yards valued at \$7,966,000, compared to 28,444,000 square yards valued at \$5,112,000 in January, 1924.

Duck increased to 795,000 square yards from 457,000. Of other cotton cloths, unbleached registered 12,428,000 square yards, compared to 6,078,000; bleached, 9,051,000, compared to 4,681,000; printed, 11,301,000, compared to 5,675,000; piece dyed, 8,518,000, compared to 6,274,000, and yarn dyed, 9,723,000, compared to 5,276,000.

For the seven months' period of the 1925 fiscal year ended with January, exports of all classes of cotton piece goods show a substantial increase over the same period of the previous year, and total 325,127,000 square yards, compared to 252,286,000.

January exports of cotton yarns and cotton hosiery also showed substantial increases, while thread shipments declined.

Exports of wool manufactures in January continued the decline which has marked recent months, being valued at \$376,000, compared to \$586,000 in January, 1924.

The department has issued its first report showing imports of mill fabrics by kinds at New York, Chicago, Philadelphia, Rochester and Boston during January. The total is 2,039,000 square yards, weighing 758,000 pounds and valued at \$2,058,000. The heaviest imports were in woolen fancies, with plain woolens next and fancy worsteds third.

Personal News

E. B. Williams has become overseer carding at the Liberty Mills, Dallas, Ga.

C. R. Boling has resigned as overseer winding at the Morven Cotton Mills, Durham, N. C.

M. C. Phillips has accepted the position of overseer weaving at the Wennonah Cotton Mills, Lexington, N. C.

Guy Queen has been promoted from loom fixer to second hand in weaving at Gaffney Manufacturing Company, Gaffney, S. C.

Ernest Moore has resigned his position at the Art Cloth Mills, Lowell, N. C., and is now located at Lancaster, S. C.

J. F. McConnell has been promoted to second hand in carding at the Chadwick-Hoskins Mill No. 1, Charlotte.

G. M. Farrell has been promoted to overseer of winding, slashing and drawing-in at the Morven Mills, Durham, N. C.

Claude Wilkie has been promoted to second hand in carding at the Durham Cotton Manufacturing Company, Durham, N. C.

J. H. Higginbotham has resigned as overseer weaving at the Social Circle Cotton Mills, Social Circle, Ga.

A. P. McBee has resigned as second hand in weaving at the Dunson Mills, LaGrange, Ga., to become overseer weaving at the Social Circle Cotton Mills, Social Circle, Ga.

Henry King has resigned as second hand in carding at the Rodman-Heath Cotton Mills, Waxhaw, N. C. on account of ill health and will farm.

C. J. Waldrop has changed from loom fixer at Union Mills, Union, S. C., to second hand in weaving at Gaffney Manufacturing Company, Gaffney, S. C.

H. H. Iler has resigned as master mechanic at the Bellevue Manufacturing Company, Hillsboro, N. C., and accepted a similar position at the Newberry Cotton Mills, Newberry, S. C.

C. L. Leopard has resigned as second hand in weaving at Gaffney Manufacturing Company, Gaffney, S. C., and accepted the position of overseer of weaving at Arkwright Mills, Spartanburg, S. C.

Obituary

C. A. Hunt, Sr.

Lexington, N. C.—C. A. Hunt, Sr., president of the Nokomis Cotton Mills and one of the pioneer cotton manufacturers of this State, died at his home here at the age of 81. Mr. Hunt entered business here shortly after the Civil War, in which he

served, and later became superintendent of the Wennonah Cotton Mills. Twenty-five years ago he organized and built the Nokomis Cotton Mills and was president until his death. He was a brother-in-law of W. E. Holt, cotton manufacturer, of Burlington.

Mr. Hunt is survived by two sons, C. A. Hunt, Jr., president of the Dacotah Mills, and L. R. Hunt, and two daughters.

John T. Wilkie.

John T. Wilkie, chief engineer and purchasing agent for the Fulton Bag and Cotton Mills, Atlanta, Ga., died last week at his home in Atlanta. He had been connected with these mills for a long number of years and was regarded as an unusually efficient engineer.

John H. Hines

Columbus, Ga.—John H. Hines, 68, superintendent of the Columbus Manufacturing Company, died suddenly at his home, 3025 First avenue. He had been ill six weeks, but it was thought that his condition was improving. After spending about four weeks in an Atlanta hospital, Mr. Hines returned to Columbus about two weeks ago. He fell dead as he was about to sit in a chair after having left the breakfast table.

Mr. Hines was well known in Columbus, where he had many friends who will deeply regret to learn of his death. He had been a resident of Columbus fourteen years. Mr. Hines is survived by his wife, a son, Dr. Joseph H. Hines, of Atlanta, and two grandchildren, John and Josephine Hines.

Martinsville Cotton Mill.

Martinsville, Va.

R. W. Lewis	Supt.
W. M. Scott	Carder
J. W. Richardson	Spinner
L. F. Williams	Weaver
— Stegall	Cloth Room
S. C. Lindsey	Master Mechanic

Red Springs Cotton Mill.

Red Springs, N. C.

T. S. McManus	Supt.
E. L. Lassiter	Carder
E. L. Lassiter	Spinner
N. L. Dawkins	Weaver
G. W. Fortune	Cloth Room
Arch Campbell	Master Mechanic
Night Force.	
Mark Shipp	Carder and Spinner
E. S. Knight	Weaver

Fairmont Mill.

Fairmont, N. C.

L. B. Gibson	Supt.
W. H. Painter	Carder
W. H. Painter	Spinner
C. B. Martin	Weaver
R. N. L. Bright	Cloth Room
W. J. Jenkins	Master Mechanic

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MILL NEWS ITEMS OF INTEREST

Trion, Ga.—The Trion Company will install 150 Draper looms for making heavy drills.

Greenville, Tenn.—It is reported that Deaver Little, of Gaffney, S. C., will build a cotton mill here.

Long Shoals, N. C.—The Long Shoals Cotton Mills have filed an amendment to its charter increasing the capital stock from \$300,000 to \$400,000.

Concord, N. C.—Construction work has been started on the new weave shed to be built by the Brown Manufacturing Company. The building will be two stories, standard mill construction.

Liberty, S. C.—The Liberty Garment Company has completed construction of its building and installation of machinery and is expected to begin operations this week. It will manufacture men's work shirts and overalls. R. A. Kohloss is local manager.

Thomasville, N. C.—The Maurice Mills, which were incorporated here last week with a capital stock of \$100,000, have let contract for the mill building and placed orders for their knitting equipment. The mill will make men's hosiery. T. E. Jennings is president.

Salisbury, N. C.—The Wallace Wilson Hosiery Mills, which for some time have been operating their equipment in a section of a building leased from the Vance Cotton Mills, have let contract for a building on Steel street. The mill will be 250x100 feet. Construction is to be started at once.

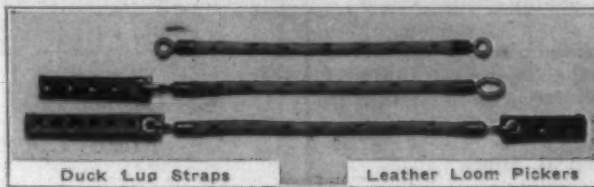
Greenville, S. C.—The Judson Mills are having plans prepared by C. C. Hook, architect, Charlotte, for a new community building to cost about \$100,000. The building will be two stories, brick with tile roof. A gymnasium 60x90 feet will be located on the ground floor. An auditorium with a seating capacity of 1,000 will be located on the second floor. The building will contain a swimming pool, locker room and other features for a building of its kind.

Durham, N. C.—The several plants of the Erwin Mills here will probably be moved outside the city limits, according to local reports. A recent extension of the limits brings these mills inside the city and it is understood they will be moved to avoid city taxes. The Erwin plants here include the Erwin Cotton Mills, the Durham Cotton Manufacturing Company and the Pearl Cotton Mills. The mill company has secured options on a large tract of land west of the city. W. A. Erwin, head of the Erwin Mills, has made no statement relative to the proposed moving of the mills beyond stating he preferred not to discuss the matter at this time.

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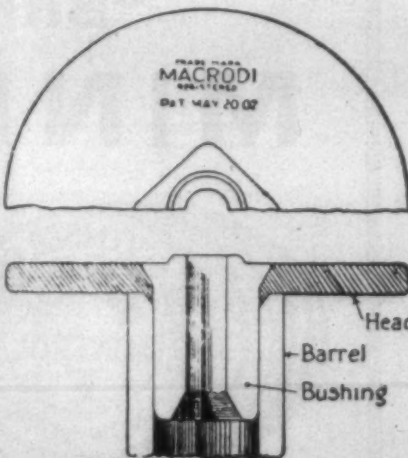
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Waynesboro, Va.—It is reported that the Stehli Silk Corporation, New York, will establish a plant here.

Burlington, N. C.—The plant of the Southern Art Silk Bleach and Dye Works is expected to begin operations within a short time. It is located on Worth street and will dye and bleach artificial silk and cotton yarns in the skein. It will be in operation with ten dye vats. E. W. Sweet is president of the company, which was organized last month, and W. L. B. Garrison is secretary-treasurer.

Spartanburg, S. C.—The Spartanburg County Mills, at Camp Wadsworth, will be sold at auction on March 2 by the receivers, George A. Norwood, cashier of the Norwood National Bank, Greenville, and B. C. Fiske, of the Fiske-Carter Construction Company, of this city. The mill has been closed for some time. It has 11,000 spindles for making 40s yarns, and the property includes 49 acres of land.

High Point, N. C.—A new silk plant will be built here by the Hillcrest Silk Company, of West Newark, N. J. The representatives of the company have been here to arrange details and a site of six acres has been purchased. The plans for the building will be drawn by the Charlotte office of Lockwood, Greene & Co. The size of the mill and amount of equipment for the plant, which will manufacture fancy silk dress goods, has not been announced.

This will be the second silk mill for High Point, the Stehli Mills having been in operation here for many years.

Salisbury, N. C.—The Rowan Cotton Mills will build an addition and install 10,000 spindles. Work will be started within a few days. Five thousand spindles will be installed as soon as the building is ready and the remainder placed next year. The addition will be the same width as the present building and 350 feet long. The mill now has 7,000 spindles.

The capital stock of the company will be increased by the issuing of \$100,000 additional in common stock and \$100,000 in preferred, making the total capital \$600,000. Of the \$200,000 new stock, \$120,000 has already been subscribed by the present stockholders.

Twenty new houses will be erected in the mill village.

San Antonio, Tex.—The Braunfels, near here, has broken ground for the erection of a new textile mill at San Marcos, Tex., 55 miles east of this city. The mill will cost \$1,000,000.

Erection of this mill is the first step toward the construction of two other mills in this immediate neighborhood, it is said. Other mills are

to be built at Austin and San Antonio.

The San Marcos mill, 132 feet by 332 feet, will have 10,000 spindles and 350 looms and will employ about 350 people. It will manufacture cotton shirting. The mill in San Antonio, when built, will manufacture gray cotton goods and the Austin mill will make cotton flannels.

Officers of the company building the San Marcos will be Maj. S. M. Ransopher, president and general manager of the Planters and Merchants Mills, Inc., at New Braunfels; Joe D. Gilliland, secretary-treasurer of the New Braunfels Mills; H. H. Ochs, vice-president and general manager of Wolff & Marx department store here; A. L. Blair, vice-president, president of the First National Bank, San Marcos.

The company is building on a 34-acre tract a mile east of San Marcos on the International Great Northern Railroad. It is planned to have the plant in full operation by the time the next cotton crop is gathered.

Barnesville, Ga.—The Carter-Collier Company, one of the plants of the William H. Carter Company, of Boston, announce that they will at once begin the erection of a bleachery at their knitting mill in this city at a cost of \$150,000. The contract for the machinery and material has already been let and work will be pushed on the big addition.

William H. Carter and Horace A. Carter, of Boston, were in the city this week inspecting the Barnesville plant and those in their confidence state that they expect to make this the biggest knitting mill in the South. The company is now the second largest manufacturer of knit underwear in the United States and expect to reach first place during this year. The Barnesville plant is expected to expand rapidly until it employs 4,500 people.

Galveston, Tex.—A campaign to raise approximately \$600,000 for the establishment of a 14,000-spindle yarn mill here was launched by the Galveston Chamber of Commerce, following the report of the committee named to investigate the project.

The prospectus for securing the mill, as outlined by the committee, reported the capital required as totalling \$850,000, distributed as follows: Building, land and warehouses, \$238,000; machinery and equipment, \$250,000; dismantling and packing in the East, freight charges and erection at Galveston, \$102,000; working capital, \$260,000. The proposed authorized capital is 10,000 shares at \$100 per share par value at 7 per cent accumulative pre-

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ferred, and 20,000 shares common stock with nominal par value of \$1 per share.

The Eastern Textile Mill Syndicate, which proposes to move its holdings from New England to Galveston, has agreed to accept stock in full payment for textile machinery valued at \$250,000.

Subscriptions aggregating \$1,000,000 already have been raised for the project.

Another Small Carry-Over?

Drawing upon available statistics, the P. T. Jackson Company estimates that the total available supply of cotton for the remaining six months of the current cotton season is 7,276,924 bales. They base their figuring upon the revised carry-over in the United States July 31, 1924, which was 1,555,514 bales; revised estimate of ginnings "City crops," etc., 13,700,000 bales; imports for six months ending January 31, 1925; estimated imports for next six months, 150,000 bales; consumption for six months ending January 31, 1925, and lastly, exports for six months ending January 31, 1925.

From these figures, they comment, "it might appear that there is no danger of a shortage in supplies, but in view of the rapidity of the movement of the crop this year and the anticipated continuation of heavy exports, we think it well for domestic spinners to follow this situation closely. Exports for the 18 days of this month amount to 567,544 bales and are expected to reach 750,000 bales by the end of the month. Consumption for this month is estimated at 550,000 bales, which added to the exports would make a total off-take of 1,300,000 bales, thus leaving the supply on February 28 at approximately 5,977,000 bales for the remaining five months.

"If the total consumption for the next five months should equal the five year average, or 863,000 bales monthly, it would allow a carry-over of 1,662,000 bales, or only 100,000 larger than last year."

Boll Weevil in Mississippi Valley.

The winter survival of boll weevil in the Mississippi Valley was the highest on record for any year since it first appeared in the cotton belt in 1892, according to the American Cotton Association.

In urging war against weevil on a larger scale, Colonel Joseph O. Thompson, vice-president of the association, warned against the danger of another short cotton crop in 1925.

Will Discuss Mill Problems

Atlanta, Ga.—Manufacturing problems of a pertinent interest will be considered at the spring meeting of Textile Operating Executives of Georgia, to be held at the Henry Grady Hotel, in Atlanta, on Wednesday, March 18.

The meetings of this association are attended by the operating executives of the Georgia mills who discuss in round-table form subjects pertaining to mill operation, with a view to economy in manufacture, reduction of waste, increasing production and efficiency, eliminating accidents, and other operating problems of mutual interest.

The morning session will be given over to the problems relating to card room operation, including opening, picking, carding, drawing, fly frames, etc. The afternoon session will be devoted to spinning room discussion.

William W. Arnold, Jr., general superintendent of five of the Callaway mills, is the general chairman of the organization. Louis L. Jones, secretary and superintendent, Canton (Ga.) Cotton Mills, is vice-general chairman. Robert W. Philip, associate editor of Cotton, Atlanta, is secretary-treasurer in charge of the arrangements.

George A. Franklin, general superintendent of the Sibley Manufacturing Company, the Augusta Factory, and Enterprise Manufacturing Company, all at Augusta, will have direct charge of the discussion at the morning session; the afternoon meeting will be under the direction of Frank S. Dennis, manager, Con-

solidated Textile Corporation, Union Division, LaFayette, Ga.

A questionnaire embodying major questions upon which the discussion will be based has been mailed to all members of the association.

Invitations to the meeting will be extended to operating executives in other States: Marshall Dilling, of Gastonia, president of the Southern Textile Association, and A. B. Carter, secretary of that body, are expected to be among the guests of the convention.

The following questionnaire will be used at the meeting:

Carding.

1. Does this year's cotton give a breaking strength equal to the cotton crop of last year?
2. Which is better for the double beater breakers—blade beaters or Kirschner beaters?
3. Do you think eveners on breaker pickers are helpful? If so, in what way?
5. Is it injurious to card sliver if cans are allowed to run too full?
6. Will long draft on cards make a weaker yarn?
7. What is the best relative surface speed between the grinding roll and the clothing being ground?
8. What is the best method of stripping cards, that is, how often, and should a roller brush be used with vacuum stripper?
9. What is the remedy for uneven tension on drawing sliver with metallic rolls?
10. What do you consider the proper speed for front roll on drawing?

Spinning.

1. Which is better from a weaving standpoint on filling, running rail up fast and down slow or up slow and down fast? Which is better from a spinning standpoint when running filling wind for warp?
2. What is the best method of doffers piecing up ends to eliminate tag filling from appearing in the cloth?
3. What is the best method for keeping numbers separated in a mill?
4. What do you do when the whirls become worn and vary in size?
5. Is it good practice to exchange front steel rolls from right-hand to left-hand frames, and vice versa, after the flutes have become worn?
6. Have you made any experiments with the different circles of travelers? Do you find it an advantage to use a traveler gauge to determine the circle of the traveler?

Work of British Cotton Growing Association

(Continued from Page 23)

and Commonwealth State Government has done everything possible to ment has displayed great energy, push on the cotton growing industry by continuing their guarantee of a fixed price for the seed cotton.

With regard to Iraq, or Mesopotamia, this year's results show a considerable improvement on anything previously obtained. The possibilities of the country, however, must

rest with a sound irrigation and drainage system. The Association has a large ginnery at Bagdad and handles all the cotton so far produced.

Cotton Goods Improve

The market letter of the Hunter Manufacturing and Commission Company says:

The week began with excellent buying of print cloths. Percales were advanced an additional $\frac{1}{4}$ cent and printers and bleachers extended their buying operations through April and in some cases into May. Some further advances took place, and many of the print cloth mills now have their production sold ahead for sixty days or more.

Better orders came in for gingham and colored goods too at the commencement of the week and the soundness of the recent advance in gingham prices was demonstrated.

Later in the week, better business developed in branded sheetings. Jobbers, especially those in the Middle West, very evidently began to come to the conclusion that sheeting prices were not likely to be lower during the next few months and covered their wants freely for the next sixty days. Slight reductions in price on some of the branded sheetings brought in so much business that prices were put back to the previous level at the end of the week and sheetings as a whole are now in more satisfactory position than in a couple of months.

Sales of print cloths, sheetings and drills for the week ending February 19th amount to 17,100,000

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yards, or 285,000 pieces, against 7,000,000 yards for the previous week. Sales would have shown even greater increase had we thought it advisable to meet some of the lower prices quoted by competitors.

Buyers are still very conservative, but the fact that many staple print cloths can no longer be bought for nearby delivery even at a premium, has begun to make some impression. On the other hand, to show the conservatism of manufacturers, the Gastonia fine yarn spinners have decided on a policy of curtailment to go into effect March 1st, to avoid any possibility of accumulating unsold yarns. This is in line with the recent decision of English spinners of American cotton to make some reduction in working hours rather than take any chance of accumulating stock. Last year's experience has borne fruit and it will be some time before manufacturers again continue to run full production when orders cease coming in. For that reason, the buyers may carry a hand-to-mouth buying policy too far for their own good if they do keep a watchful eye on available production.

Effect of Rayon the Cotton Industry

The use of artificial silk, now given the generic name of rayon, when interwoven with cotton has allowed cotton cloth manufacturers to greatly enhance the value of their products and to bring them to a much higher development.

Rayon was first imported into this country in 1907, and was used by a novelty cotton goods manufacturer as a decoration in the weft of a cotton tissue by running a few threads across the cloth. To do this, special machinery had to be made in order to successfully wind the threads on the bobbins.

After this experiment had been made and tried out successfully, shirting cloths were made with all cotton warp and solid artificial silk filling, and these cloths were so much more lustrous and durable that they rapidly replaced cloths that had previously been made with silk and cotton. They also had the advantage of retaining their whiteness where silk and cotton gradually became yellowish after several washings. After this, rayon stripes began to be used in place of silk stripes as a decorative feature on cotton cloths and also in checks on an all cotton background. Then experiments were made in dyeing the rayon, with the result that cloths were made with the dyed fibre in both warp and filling.

Rayon does in no sense compete with cotton; rayon competes with silk, which it replaces. Cloths made with combinations of rayon and cotton have been brought out for dresses, shirts, draperies, underwear, etc., and have met with much favor. Rayon today is \$2 a pound for the 150 denier yarn, which is equal in weight to a 35/1 cotton yarn. This size yarn in cotton sells for about 65 cents. The same num-

ber in silk would be about triple the price of rayon.

In the year 1923, 35,400,000 pounds of rayon was produced in the United States out of a world production of 97,000,000 pounds. Cotton goods manufacturers used 4,339,000 pounds, while silk manufacturers, who use large quantities to cheapen their product by mixing it with silk, consumed 5,910,000 pounds. Hosiery manufacturers used nearly 9,000,000 pounds; knit goods manufacturers, 10,000,000 pounds, and the balance was used by manufacturers of miscellaneous fabrics.—Commerce and Finance.

Child Labor Amendment

The proponents of the proposed Child Labor Amendment to the Constitution have not definitely given up hope of the ultimate passage of the measure in spite of the discouraging progress they have been able to make to date. They say that "on sober, second thought" the real facts will be learned and the Legislatures which have rejected the amendment will reconsider their action.

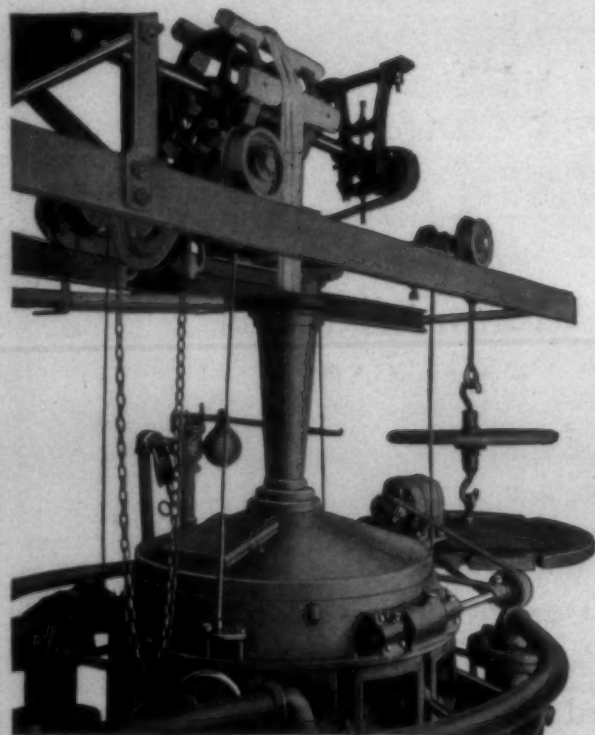
We cannot agree with them on this proposition, even while we grant their earnestness of purpose and desire to do well. Sober, second thought, we believe, is working in just the opposite direction. As the days go on it seems to us that there has been in this country a rising tide of disapproval of this measure which would place in the hands of Congress such a dangerous amount of power and which would also

constitute a further encroachment on the powers of the various States by the Federal government. An example of this is the State of Arkansas which was one of the first States to ratify the amendment. The legislators of this State are now agitating a proposal to recall their approval. Should they do so the amendment would have been ratified by only one State, California.

The unanimity with which the amendment has been rejected by the States which have already passed upon it foreshadows but one thing. That is that the large majority of the twenty-eight States whose legislatures are now in session will cast adverse votes on the measure. We do not think it requires any large gift for prophecy to pronounce the amendment dead,—as dead, in fact, as the proverbial door-nail.

The plain truth of the matter is that the reformers who advocated the measure—many of them fine men and women whose motives and sincerity we would not in any way impugn or question—failed to make out a convincing case for their proposal. When the public first heard of the measure the initial impression was that it should pass. But as the public went further into the question and became more enlightened about it many things were found of which it did not approve and which it pronounced not good. Sentiment for the passage of the measure has been steadily on the wane and opposition to it has mounted in direct proportion.—Charleston (W. Va.) Gazette.

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"Exception Plan" for Executives

By Charles Piez, President of the Link-Belt Co., in "System"

THE man who carries the burden of directing the activities of a large manufacturing or business organization cannot load himself up with detail work. He must delegate it all to subordinates and reserve for himself only the making of decisions affecting the policies of the enterprise. In my 35 years' experience with the Link-Belt Company, I have found that modern management is built upon what I choose to call the "exception" plan.

The Link-Belt Company maintains 25 sales offices and 9 manufacturing plants in various parts of the United States. The capitalization is \$15,000,000 and the total payroll has some 5,000 names on it. The products manufactured have a wide application in many branches of industry, and the raw materials are drawn from sources the output of which fluctuates considerably, with a resultant effect on prices. Both our markets and our supply, then, are matters which constantly require a great deal of attention, in addition to the usual production problems common to all manufacturing organizations.

To the small manufacturer who is staying nights at the office worrying out plans for the guidance of a business employing 50 to 75 men, and who views with dismay the ever-growing accumulation of

matters he personally must attend to, the task of guiding the the course of a \$15,000,000 concern might seem overwhelming—not to be accomplished except by killing hours and superhuman effort. It might seem reasonable that the head of such a corporation should have to arrange his work so that not a second would be lost at any hour of the day.

But, as a matter of fact, I do not arrange my working day in such a manner. I should consider such an arrangement very inefficient, except in emergencies. The scheduled working day—so much time for planning, so much for dictation, so much for conferences—is very desirable for the subordinate executive whose duties are of constantly recurring type. But I have found that such a thing is not desirable for the executive who must set a course for the business shop, and hold the craft to it.

It is true that when I was head of the Emergency Fleet Corporation during the war, I worked from 10 to 12 hours a day over a period of two years with hardly a Sunday off. I would not do that under ordinary circumstances, and it would not have been necessary then, had we not been compelled to build a large organization within a short time.

According to my experience, seven or eight hours constitutes a reasonable working day for an executive charged with heavy responsibility. The man who has continually to work overtime or to take work home with him is a poor executive. Any reduction in the pay-roll resulting thereby is counter balanced many times by the loss of his own efficiency from the standpoint of guiding and setting policies. He is doing a lot of detail work he should train others to do.

Our men who are on the up-grade are taught that while their earlier jobs may consist of constant repetition of certain duties which they attend to personally when they get in charge of a plant they are expected to direct others how to do the work and then to see that it is done that way. They are not to narrow their own field of vision with a lot of detail work. No man can steer who cannot see the whole horizon.

An executive burdened with such duties, I have found, cannot drop a certain line of thought on the stroke of the clock and turn his attention to another line. At least, I have not been able to do it effectively myself, nor have the men who are working with me in the higher executive posts.

As soon as a task crops up which

must be repeated again and again, it is time to pass it on to a man who can specialize on it and become expert. That is the test by which I have found it best to delegate work. Does the task present itself often enough that another man can be taught how to do it

So, by passing on to others the constantly recurring operations of the sort which keep the heads of so many companies in the office late at night, I have been able to leave my own time free from the necessity of scheduling my work. Except in emergencies, there is no rush and bustle in my office. I do not want rush and bustle there. I have found that the particular type of work which is reserved for my own efforts cannot be performed efficiently in such an atmosphere. This would hold good whether this organization were a \$15,000,000 or a \$15,000,000 concern.

My experience has indicated that the larger the organization gets, the more the duties of the chief executive partake of a teaching or coaching character, combined with that of charting a course through the broad field of business. All of these duties together, do not involve any detail work on my part. But they do involve a great deal of thought, of study, or contemplation, and—if

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Give us a trial on Cylinder and Doffer Fillets. This
will satisfy you as to the merits of our Card Clothing.

I may use the word in a nontrivial sense—of dreaming.

This atmosphere of quietude in the head office is necessary to efficient management. Without it the man in charge could not concentrate well, nor could he make unhurried decisions. When an error is made in the guidance of a \$15,000,000 organization, the loss is usually large enough to make one pause. Our decisions must be thought over several days if necessary. And if the business were only a fraction of its present size I should still feel that the same method of arriving at them would be necessary.

However, my own working day is far from a leisurely period. I have no time for golf during the week. Keeping in touch with general conditions as they affect our business is a task in itself. Also, there are problems submitted by the vice-presidents in charge of plants. When a higher executive problem of policy upon which he feels the need of advice, it is my work to advise with him. Naturally, a matter of this sort is likely to come up at any time, and it must be considered at the time it arises.

My own desk is rarely clear of papers. I could probably keep it so by passing to others a great many things which are brought to my attention, but I would not feel comfortable in doing so. I want before me all matters which give informa-

tion as to the conditions of our organization from the financial, marketing or production standpoint. And papers with this information must be studied constantly.

It sometimes happens, too, that large customers call at the head offices of our organization for conferences on their orders. When these involve matters of policy, the burden of decision falls upon me. Again, salesmen of high caliber come around with ideas that are worth while from the policy standpoint, and if I think they have anything that may be of use to us in a broad way, I usually see them.

There is the additional consideration in my capacity of coach I may be called at any moment to some distant part of our organization to assist in deciding a question of financial, marketing, or purchasing policy. In times when prices are uncertain and the market of most raw materials is falling, these calls are likely to come with greater frequency than at other times. Were we doing business in a rising market with lots of orders coming in, and no danger of financial or administrative uncertainties in any of our plants, my services would hardly be needed at all. The purely operative functions of our organization are worked out so that they can be administered by the plant managers without calling me in.

Modern management is built up

on what may be termed the exception plan. The head of each department, while supervising routine operations, has referred to him for decision everything out of the ordinary, everything, in fact, that the man doing routine work cannot decide. The department head decides as many of these questions as he feels competent to do and passes the more difficult decisions on to his superior.

The executive cannot immerse himself in routine matters, he must hold himself free to take care of the exceptions. He is, in effect, an emergency man, and it would mean death to his usefulness if he made himself the slave of a time-table.

Standardization of Cotton Tare Asked.

Washington, Feb. 24.—The Department of Agriculture was asked in a resolution adopted today by representatives of the cotton industry, assembled at the call of Secretary Gore, to draw up a proposal for standardization of "tare," or cotton bale wrapping, and for bringing about sale of cotton on a net weight basis. The proposals would be submitted to a later conference of cotton men for approval.

Discussion at today's conference, called to obtain suggestions for stopping avoidable losses of cotton

in its handling, centered about waste through careless ginning practices, excess bale wrapping, weather damage and unnecessary sampling of cotton.

Cotton taken from bales for sampling, and known as the "city crop," amounts annually to about 150,000 bales, according to speakers, who held this to be wasteful. A system similar to that used in New Orleans where samples taken by the exchange are accepted by all traders, was advocated.

Improved wrapping and marking of cotton bales to prevent lost shipments and lend attractiveness to the article were suggested by some speakers who described the American bale as the most disreputable and wasteful package entering any trade channels. Compressing of bales to a greater density was advocated as a means of better utilizing freight shipping space.

George Howard.

Tarboro, N. C.—George Howard, president of the Runnymede Hosiery Mills, died at the age of 58 as a result of a stroke of paralysis. He was one of the most prominent business men in this section and had been identified with the knitting industry for many years. He is survived by his wife, three sons and one daughter.



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1923

Name of Mill _____

Town _____

Spinning Spindles _____ Looms _____

Superintendent _____

Carder _____

Spinner _____

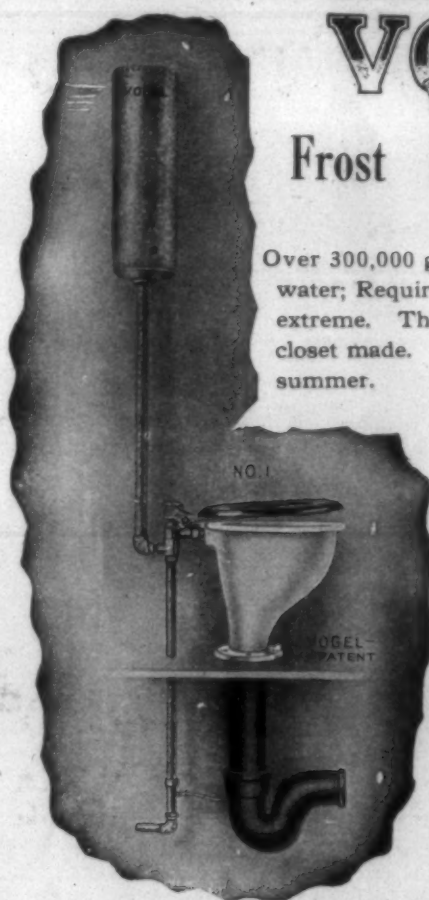
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Arnold, Hoffman & Co.	2	Lockwood, Greene & Co.	—
Ashworth Bros.	50	Lowell Shuttle Co.	30
Atlanta Brush Co.	—	—M—	
Atlanta Harness & Reed Mfg. Co.	24	Macrodi Fibre Co.	28
—B—		Marston, Jno. P. Co.	45
Bahnson Co.	—	Mathieson Alkali Works	9
Bancroft, Jos. & Co.	—	Mauney Steel Co.	45
Barber-Colman Co.	38	Memphis Cotton	—
Barber Mfg. Co.	—	Morrow Machine Co.	38
Borne, Scrymser Co.	27	Metallic Drawing Roll Co.	49
Bosson & Lane	—	Metz, H. A. & Co.	—
Brown, David Co.	30	Minter Homes Co.	—
Brown-St. Onge Co.	—	Mississippi Cotton	43
Butterworth, H. W. & Sons Co.	—	Moreland Sizing Co.	—
—C—		Morse Chain Co.	51
Carrier Engineering Corp.	—	Mossberg Pressed Steel Corp.	—
Carter, A. B.	—	—N—	
Catlin & Co.	45	National Aniline & Chemical Co.	23
Charlotte Leather Belting Co.	52	National Ring Traveler Co.	38
Charlotte Mfg. Co.	2	Newburger Cotton Co.	43
Chicago Belting Co.	—	N. Y. & N. J. Lubricant Co.	25
Chicago Fuse Mfg. Co.	—	North Carolina Cotton	42
Cocker Machine & Foundry Co.	—	Norwood Engineering Co.	50
Collins Bros. Machine Co.	—	—P—	
Corn Products Refining Co.	—	Page Fence & Wire Products Assn.	41
Courtney, Dana S. Co.	—	Paige, Schofield & Co.	45
Crompton & Knowles Loom Works	—	Parker, Walter L. Co.	37
Crump, F. M. & Co.	—	Parks-Cramer Co.	—
Curran & Barry	44	Paulson, Linkum & Co.	45
Curtis & Marble Co.	30	Penick & Ford, Ltd.	—
Cyclone Fence Co.	—	Perkins, B. F. & Sons	31
—D—		Puro Sanitary Drinking Fountain Co.	25
Dan Gear Co.	—	—R—	
Dary Ring Traveler Co.	—	Republic Chemical Co.	41
Davidson, Jos. L. Co.	24	Reeves Bros., Inc.	44
Diamond State Fibre Co.	13	R. I. Warp Stop Equipment Co.	—
Deering Milliken & Co., Inc.	44	Rice Dobby Chain Co.	24
Dixon Crucible Co., Joseph	—	Ridley Watts & Co.	—
Dixon Lubricating Saddle Co.	34	Roessler & Hasslacher Chemical Co.	27
Drake Corp.	37	Rogers Fibre Co.	33
Draper, E. S.	28	Root Co.	19
Draper Corp.	1	Roy, B. S. & Son	35
Dronsfeld Bros.	—	—S—	
Druid Oak Belting Co.	29	Saco-Lowell hops	6
Duplan Silk Corp.	12	Sanders, Smith & Co.	29
DuPont de Nemours, E. I. & Co.	—	Sayles Finishing Plants	—
—E—		Scott, Henry L. & Co.	—
Eclipse Textile Devices, Inc.	18	Seaboard Ry.	—
Economy Baler Co.	49	Sellers, Wm. & Co.	—
Emmons Loom Harness Co.	36	Seydel Chemical Co.	—
Entwistle, T. C. Co.	—	Seydel-Thomas Co.	38
—F—		Siggers & Siggers	24
Fafnir Bearing Co.	—	Sirrine, J. E. & Co.	—
Ferguson Gear Co.	20	S. K. F. Industries	—
Fales & Jenks Machine Co.	—	Slip-Not Belting Corp.	16
Farish Co.	28	Sonoco Products	—
Fairbanks, Morse & Co.	17	Southern Distributing Co.	42
Firemen's Mutual Insurance Co.	—	Southern Railway	51
Ford, J. B. Co.	20	Southern Spindle & Flyer Co.	40
Fournier & Lemoine	24	Spinks, John D.	—
Franklin Process Co.	—	Stafford Co.	52
—G—		Steel Heddie Mfg. Co.	21
Gates Lumber Co.	—	Stein, Hall & Co.	—
Garland Mfg. Co.	45	Sydnor Pump & Well Co.	42
General Electric Co.	—	—T—	
Georgia Webbing & Tape Co.	14	Tatum, Pinkham & Greey	44
Graton & Knight Mfg. Co.	10	Terrell Machine Co.	15
Greensboro Loom-Reed Co.	29	Texas Cotton	42
—H—		Textile Mill Supply Co.	—
Hepworth, Jno. W. & Co.	—	Thomas Grate Bar Co.	46
H. & B. American Machine Co.	—	Tolhurst Machine Works	—
High Point Loom Reed & Harness Co.	—	Tripod Paint Co.	—
Hollingsworth, J. D.	—	—U—	
Hart Products Corp.	20	United Chemical Products Co.	51
Hopedale Mfg. Co.	—	U. S. Bobbin & Shuttle Co.	—
Houghton, E. F. & Co.	11	U. S. Ring Traveler Co.	46
Howard Bros. Mfg. Co.	32	Universal Winding Co.	39
Howard-Hickory Co.	—	—V—	
Hyatt Roller Bearing Co.	5	Victor Ring Traveler Co.	38
—J—		Virginia Machinery & Well Co.	24
Jackson, Hill & Co.	—	Vogel, Joseph A. Co.	34
Jacobs, E. H. & Co.	28	—W—	
Johnson, Oliver & Co.	—	Washburn Printing Co.	39
Jones, W. A. & Co.	29	Watson, L. S. Mfg. Co.	—
Jordan Mfg. Co.	—	Wellington, Sears & Co.	44
—K—		Westinghouse Electric & Mfg. Co.	4
Kaumagraph Co.	—	Whitin Machine Works	3
Keever Starch Co.	22	Whitinsville Spinning Ring Co.	24
Klauder-Weldon Dyeing Machine Co.	39	Williams, J. H. Co.	40
		Wilts Veneer Co.	24
		Wolf, Jacques & Co.	25
		Woods, T. B. Sons Co.	51

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WRITE FOR SAMPLES

Employees' Representation in Industry

The success of employees' representation in industry, through which approximately 800 companies are now attempting to solve their labor problems, depends largely on the ability of employers to understand the point of view of wage-earners, to secure their co-operation, and to develop leadership among them. This is indicated in a 500-page report issued by the Department of Industrial Studies of the Russell Sage Foundation. While the report is based on a five-year study of employees' representation in the coal mines of the Colorado Fuel and Iron Company—undertaken by the foundation in 1919 and completed last summer—it is pointed out that the analysis of the relations between employer and employee in this industry is true also of the railroads, the packing industry, the textile industry, and other important branches of American business.

"Our studies of wage-earners' participation in management, not only in the Rockefeller properties in Colorado but in other industries," declared Mary Van Kleeck, director of the Department of Industrial Studies, in making the report public, "have convinced us that primary attention must be given to the views of the wage-earners and that it is very important for the owner of an industry to find out how his workmen feel about such a plan and not to rely solely upon statements about the employees' attitude from managing officials. The success of any plan of employees' representation in industry depends on the confidence and co-operation of the employees, and on the willingness and ability of local officials to carry out the ideas of the owners. To ignore this and to permit a plan to go on for years without stimulating genuine leadership among the wage-earners is to build on an illusion."

The report attributes the partial failure of the employees' representation plan in the mines of the Colorado Fuel and Iron Company to the local officials of the company rather than to John D. Rockefeller, Jr., who personally introduced the plan. The foundation's investigators report that although the employees' representation plan limits the power of discharge—the abuse of which by foremen and superintendents caused many of the labor difficulties of earlier years—foremen and superintendents have to be trained and carefully supervised in carrying out a policy which involves changes in their traditional attitude.

Speaking of industry at large, the foundation's investigators say: "Local rather than national organization of employees is exactly what is desired by many employers; some of these welcome employees' representation because they see only that phase of it which limits its activities to employees within a single company, and they believe it offers an escape from their difficulties with trade unions. Organizers and union officials irritate them, and many are the charges of arrogance and lack of responsibility or efficiency which employers heap upon

the leaders of unions. Some of the criticisms are well deserved; some are the natural result of the constant opposition of employers to unionism; some are merely efforts to justify irritation which a manager feels in being obliged to make concessions to the demands of labor. On the other hand, the men feel that a national organization alone has the power to protect them in a conflict with their employers.

"It is foolish to deny a divergence of interest between employers and employees. Every dispute over wages illustrates it. The need is to establish some means of adjusting these divergent claims without the wasteful conflict by which the power of each side is tested and the issue decided in favor of the stronger."

Copies of the report may be secured at the Russell Sage Foundation, 130 E. 22d Street, New York City.

Increased Wages Paid in British Cotton Industry.

Only 7 per cent of the operatives in the cotton trade were unemployed on December 22, according to a recent report of the British Ministry of Labor, Assistant Trade Commissioner Isaacs, London, reports. Wages paid to all workers in the cotton trade show an increase of 10.2 per cent over December, 1923. This percentage of operatives unemployed on the above mentioned date compares favorably with the past records of the Employment Exchange which indicate that 8.6 per cent were unemployed on November 24, and 12 per cent on November 21, 1923.

Manchester Trade in Cotton Goods Inactive.

The Manchester trade has not been very active since the first of the year, and during the interval since Christmas no bulk orders have been received, according to report to the Department of Commerce by Assistant Trade Commissioner Isaacs, London. The volume of inquiry from abroad has fallen off. An overproduction in yarns is reported, and transactions in the yarn market are on a small scale. Weavers finding supplies more plentiful, endeavor to obtain greater reductions from spinners than the latter are willing to concede. Demand from India and China has not been active. Moderate orders have come in from South America. Business in Egypt and the Levant is fair but far from brisk. Trade in home and colonial markets has shown a tendency to improve, and these markets offer about the most hopeful outlook at present.

A Righteous Defeat.

The "Child Labor" Amendment is killed, so far as this year is concerned, but this by no means indicates that the fight is over or that intelligent Americans will not have to stay unremittably on guard to resist new attacks of similar sort, certain to be coming later.—National Grange Monthly.

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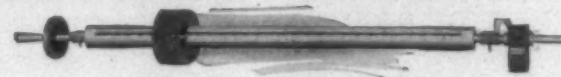
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The Oiling of Looms

George Otis Draper, in *Textrin Themes*, published by the Hopedale Manufacturing Company, gives the following information on oiling looms.

I have been asked by one of our loom experts to write a short screed on the subject of proper oiling of looms. I had some experience with oils when making a six months' test of spindle oils in 1888, but confess my personal knowledge of loom requirements is more theoretical than practical. It is customary for a loom to be thoroughly oiled when a warp runs out and the oil holes should be cleaned, the crank-arm and all loose nuts tightened; but some looms run their warp out three times as fast as others. The main bearings of a loom need oiling twice a week at start and once a week or oftener later according to the speed and strain present. The true test of oiling is found in the wear of the parts in contact.

But it were foolish to wait until the loom wears out to know how often it should be oiled. We used to advise oiling spindles twice as often as was otherwise necessary because we figured that the boy would get careless and skip a few each time. In oiling looms it is important not to let oil run over on parts which may throw or drip oil on the warp or cloth. One possible customer told me he would gladly pay extra for a loom with oilless bearings throughout. The recent non-fluid oils with hrdltaiocoww

non-fluid oils prevent drip and spatter and are claimed to cut the number of oilings in two.

I know something of oilless bearings. Wm. T. Carrol of Worcester, Mass., was the pioneer in the line of oilless wood bearings and as he was under salary from my old company I arranged to have several wood bearings introduced on regular loom output. He retained the right for use outside and I personally financed him for general introduction. I believe he got several companies interested at various times and there are certainly several of such still going. I never got a cent back; possibly none was sent back.

We recently installed some fairly large loom lots having treated wood bearings in the rocker-shaft boxes. Such have run for seven years in large lots in other places. We use our own wood bearings in whip-roll bearings and cloth-roll bearings. Possibly there are other places where such might apply.

But in every place, where iron rubs against iron, oil grease is essential. I believe that one half, at least, of the worn out automobiles that you see in the junk yards were sent there from lack of oil. We sell looms that can run, but we can not be responsible for the way customers will run them. As a matter of fact, we will sell more repairs if they are not properly oiled, but we did not go into business to make profit from repairs.

The oilers are often paid less than men who do less important work. Mills that depend on weavers, or

fixers to do the oiling believe that they will keep their looms well attended to save their own selves from trouble. Perhaps they do not expect to stay on the job; perhaps they do not want to have the looms run well. The overseer should follow up their work and also look over all parts worn out.

New repairs should not be given out except when the worn or broken parts are handed in for examination. Lack of oil writes its own story on the surfaces worn. In a damp room, like a weave-room, parts that are not oiled will often rust together and stop action of operating parts.

Automobiles have developed new ideas in oils and greases. They have brought out grease which sticks to gear teeth and non-fluid oils to take the place of grease. Heavy oils, or grease, are good for slow moving parts and for parts under heavy pressure. There are no parts running on looms at sufficient speed to require a light oil in the modern sense that the term is used, though a fairly light oil helps work out the grit from new bearings when the looms are started up.

The best oil in the world comes from whales. My great-grandfather on my mother's side was a Nantucket whaler and killed over two hundred of them with his own hand. Sperm oil is used for watches and other delicate machinery. The oil which we use on looms has a petroleum base and varies according to the locality and the process of distillation. Reputable dealers in oils can give safe advice as to the

quality and character of oil needed for loom uses.

New looms need oil twice as often as old looms. The bearings are a closer fit at the start. Metal gets a glaze in use. One loom builder sent looms out with loose fits. Others said he took five years' wear out of them at the start. Perhaps he saved five years. Looms are in use which have run fifty years. Others are in deplorable shape in five years. Put the responsibility where it belongs; it belongs on the overseer first to follow up the men under him and see that they do not scamp the job. Looms need oil as much as a baby needs milk—and that is regularly and often.

Fancy Pile Fabrics

LaGrange, Ga.—Probably the one fabric which has created the greatest amount of interest among recent buyers of cotton goods is the fabric which is variously known as toweling, eponge, ratine and other names which designate the same fabric. To anyone acquainted with manufacturing, the above mentioned names mean a special cloth, although retailers and others have been accustomed to distinguish between them. An eponge, as the term is generally understood, is not the same fabric as the toweling or terry cloth, and a ratine is different from either. One of these fabrics is made by a finishing process, another is made through the use of novelty yarns, while the other is made by loom mechanisms. All of these fab-

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EMMONS LOOM HARNESS AND REEDS

rics have been used for a wide variety of purposes, such as dresses, trimmings, vests and other purposes, and are somewhat different in construction than fabrics formerly produced, it may be well to consider two fabrics which are made with ordinary yarns, but which are manufactured by a loom mechanism rather than through any other process.

These fabrics may be called toweling fabrics or terry cloths. Many of the ideas which have been developed for sale at present have been concocted from ordinary toweling constructions.

When many of these cloths were first produced, they were not very satisfactory, but inasmuch as any special ideas are developed gradually and not produced when the notion is first in demand, the same condition is noted in the production of fabrics such as that considered. It might be said that there are two definite methods of producing terry cloths, one in which there are two warps used and in which the weave together with the loom mechanism allows a certain amount of extra yarn to be forced into the cloth, thereby producing a rough appearance on either or on both sides of the cloth.

These terry cloths are being produced by different methods on the loom, but the general result, so far as the cloth is concerned, is practically the same. The second method is one in which a different mechanism is used, and in which wires are inserted to make loops as the cloth is being woven. Certain styles of fabric which are impossible of production by the first or terry motion are easily produced by the second method, although, of course, they are sometimes very good imitations of the second kind of cloths made. The wires which are used are inserted and withdrawn as the cloth is being woven, and because of such facts the loom speed is low, and the cloth production is not so high as the number of picks which the loom makes would indicate.—Daily News Record.

Committee D-13 to Meet in Charlotte

Committee D-13, the Yarn and Fabric division of the American Society for Testing Materials, will hold its annual meeting in Charlotte September 25 and 26.

This will be the first time in the 30-year history of the American Society for Testing Materials that such a meeting has been held south of Washington. Through the overtures of G. N. Nord, of Charlotte, manager of the tire fabric division of the Johnston Mills, members were asked to vote on Charlotte as the convention city and 85 per cent of the replies have been favorable to the Queen City.

The semi-annual meeting of the committee will be held at Providence, R. I., March 6 and 7, at which time the formal vote will be taken on Charlotte's selection.

The American Society for Testing Materials is composed of experts and technical directors engaged in the testing of all manner of materials. Committee D-13 is the sec-

tion devoted to yarns and fabrics, and numbers in its personnel approximately 100 textile experts from from all over the United States.

Mr. Nord was anxious to bring the convention here in order that the textile manufacturers might be acquainted with the work of the committee. The dates have been so arranged that the meeting will come during the Made-in-Carolinas Exposition, thus giving the visitors an opportunity to see what is being done in this section.

Dr. W. F. Edwards, of New York City, president of the United States Testing Company, is chairman of the committee, Russell T. Fisher, of Boston, secretary of the National Cotton Manufacturers' Association, is vice-chairman, K. B. Cook, of Newark, technical director of the United States Rubber Company, is secretary, and S. A. Steere, of Akron, technical director of the Goodyear Tire and Rubber Company, is chairman of sub-committee one.

There are three members of the committee in Charlotte. Mr. Nord, C. G. Miller, of the McClaren Rubber Company, and a representative of the Parks-Cramer Company.

American Woolen Company Shows Heavy Loss

New York. — Experiencing the worst year since its incorporation in 1899 the American Woolen Company, in its annual report, showed a loss after taxes and charges for 1924 of \$4,025,865 and a deficit after dividends amounting to \$11,969,837. This compared with a profit in 1923 of \$9,326,623 and a surplus available for dividends of \$6,660,212, or the equivalent of \$8.84 a share earned on \$40,000,000 common stock after deducting preferred dividends. The deficit before dividends last year was \$6,944,420.

Commenting on the adverse conditions prevailing in the woolen industry, during 1924, Andrew G. Pierce, president, told stockholders that veteran mill men characterized the depression as the worst since the Civil War.

"Manufacturing, raw materials and labor costs," said Mr. Pierce, "were far higher than in 1923, while sales were disappointing. Aggressive plans were made to overcome apathy of buyers by offering goods at low prices, but response in both heavy weight and light weight seasons was unsatisfactory, especially in men's wear lines, which constitute the production of the largest mills."

The company on December 31 reported a profit and loss surplus of \$22,127,356, compared with \$33,596,725 at the close of 1923.

The balance sheet as of December 31 showed cash on hand of \$5,904,893, accounts receivable of \$30,243,204, and inventory of \$49,975,795. On the liabilities side were notes payable of \$11,195,000 and accounts payable of \$7,176,389. The report also showed among the liabilities \$4,063,176 "reserve for taxes and contingencies," representing the balance of a special reserve of \$5,500,000 set up as of December 31, 1922, out of profits for 1923, the sum of \$1,436,824, having been applied against that reserve during 1924.

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Training the Operative

(Continued from Page 14)

in years. I have asked an overseer how long a girl has been at a job, and I have been told three months. I have asked why has she not been promoted to something better, and have been told she is only a learner. I have asked who is her teacher, and have been told she learns herself. I have asked whether, under such circumstances, her learning will be complete in three years. Learning without a teacher is a very, very slow process and a very, very difficult process—so slow and so difficult that I doubt if one in 1,000, or one in 10,000 can master it, but learning with a teacher is comparatively quick and easy.

An operative with teaching will be more efficient in three months than an operative without teaching will be in three years. Yes, you may agree to this; you may regard it as one of those points on which you never have had any doubt; but, of course, the teaching must be done in the schools, where they have the necessary teachers, etc.; it cannot be done in the factory, where there are no teachers. Can it be done in the school? I doubt it. They may have the teachers, but they have not the conditions. You must teach the operative the best method of doffing; that cannot be done in the school, however well equipped in staff or machinery. If we have not the teachers in the mill, we must get them, because it will pay us and pay us handsomely. Just think of the difference; by it we may secure an efficient operative in three months; without it the operative may remain inefficient three years. Supposing it were a machine, a mule spinning frame that by judicious lining up could be made efficient in three weeks—what should we think of the overseer who waited three years to make it efficient? And yet the saving by making the mule efficient in three weeks instead of three years is as nothing compared to the saving effected by making an operative efficient in three months instead of three years.

The Evil of Monotony.

Why do we so hamper trade with long-term apprenticeships? Because we take no more trouble than our fathers or grandfathers took to teach or train the operatives. In this respect, in this wonderful age of progress, there has been very little advance in the cotton trade. What is the best way of improvement? I am not prepared to say, but I think if managers, overseers, foremen, fellow workers realized the importance of the matter they could find means of doing most valuable work. I point out the first difficulty of more training in the mill; the discussion may be the means of pointing out the solution. But I must now deal with the second difficulty in the way of developing brain capacity in the mill, and that is the immobility of labor. Monotonous work dulls, change develops brain capacity. In every department of a textile mill there is tremendous conservatism. The operative goes each day to the same machine, so that he almost claims ownership, and often a machine is

known by the name of the operative. If I could find no other way of change, I would get the operatives to change their machines each day. But think what a weaver would say who had to move two or four looms down the alley each day, or a winder if she moved daily from one frame to another. As it is, the operative and the machine become almost one, the work is performed largely, if not entirely, subconsciously, with the result that it is performed with a minimum of effort and a maximum of efficiency on that job at that time. But is it worth the price? We gain the maximum of efficiency and the minimum of effort, but we lose interest; we gain manipulative skill, but we lose initiative capacity; we may gain material wealth, but we lose mental energy. We are told that the worker, with the development of machinery, is tending more and more to become a mere machine. Is this true? Have we tried to envisage the change; a human being with all his cheerfulness, versatility, spirituality, turned into a machine, with all its smooth running, unflinching accuracy and unresponsiveness?

To state it thus compels us to consider the matter further. If it is true that man is becoming more and more a machine, is it necessary? No, assuredly not. But the easy road to ruin is to be satisfied with obtaining the maximum of efficiency with the minimum of effort on the job at the time, and to allow man and machine to approximate. Such a consummation is the end of civilization, and the only way to fight this tendency is to realize that initiative capacity must be developed today at all costs; it is of far greater importance, of far greater monetary value in the long run than manipulative skill. As I have said, monotony kills, change kindles initiative capacity. How can we reduce monotony and introduce change? Try to introduce as much change as possible in each operative's work. This does not mean that you must strive to avoid specialization; you must accept specialization as a great progressive movement come to stay, but you must strive for as much change as possible as is compatible with specialization.

Du Pont Fibresilk Co. Adopts Rayon

The Du Pont Fibresilk Company, Inc., has announced that hereafter its product will be called "rayon." This decision was made because the word "silk" is neither "artificial" nor "silk" but a separate and distinct fibre as is cotton or wool, it is explained.

The announcement, signed by President L. A. Yerkes, reads:

"This company is going to adopt the word rayon for the textile fibre which up to this time has been variously called fibresilk, artificial silk, wood silk, etc., etc.

"We have felt for some time that the term 'artificial silk' was a detrimental one to everybody concerned, viz., the manufacturers of the product as well as the retail purchasers. 'Artificial' anything carries with it

in the minds of most people, or at least suggests, inferiority.

"Naturally a step of this kind has only been taken after very great deliberation. This industry has long since passed the preliminary or experimental stage; the article which we manufacture is not artificial in any sense of the word, nor is it silk. It is a separate and distinct fibre in exactly the same category as any other textile fibre and therefore just as much entitled to a name, as cotton, wool, etc., etc.

"The industry has grown too large, the output is too great, the consumption too varied and universal for it to further struggle along under any assumed name.

"The name rayon has been adopted by a large majority of the textile interests of the United States and some foreign countries and in our opinion, while an arbitrary name, it is a very good one and we are glad to take this opportunity of publicly endorsing it and announcing that we will use it exclusively on our product in the future."

Holcombe Textile Equipment Co.

On January 10, 1925, the Holcombe Textile Equipment Company, Inc., took out papers of incorporation at Birmingham, Ala., with a paid in capital stock of \$40,000 of an authorized \$80,000, the purpose of which was to take over the assets of the Holcombe Bunch Builder Company, Birmingham, Ala.

The Holcombe Bunch Builder Company, Birmingham, Ala., was incorporated May 1, 1923, for the purpose of manufacturing and marketing the Holcombe automatic bunch builder attachment for spinning frames. H. H. Holcombe, the inventor of the Holcombe automatic bunch builder attachment, had several years previous to the incorporation of the old company, developed through a series of continued applications in mills where he was in charge of spinning operations, his bunch builder to a practical and perfected place. By the application of basic principles involved in the design and application of the bunch builder, the commercial possibilities of the machine became apparent to Mr. Holcombe, who was instrumental in organizing the original Holcombe Bunch Builder Company.

The old company proceeded to market the device, and after weathering over the balance of 1923 and a very bad year for the textile industry last year, the company began to show, last fall, great progress. A great deal of time and expense became necessary in the standardization in the builder proper to meet the various types of spinning frames, various types of sliding feelers, and the development of the builder to make it perfectly adaptable to all such types of conditions, together with making it perfectly practical and adjustable for various sizes of yarn, in order to produce the proper bunch required for a given set of conditions.

The new company was formed with the idea of expanding the business in the bunch builder and for the purpose of perfecting, developing and marketing several other

specialties which the company is now working on.

The officers of the present Holcombe Textile Equipment Company, Inc., are the same as the officers in the old Holcombe Bunch Builder Company, and in addition to these directors, W. D. Tynes, president of the Hardie-Tynes Manufacturing Company; W. W. Crawford, president of the American Trust and Savings Bank, Birmingham, Ala.; C. F. DeBardeleben, president of the Alabama Fuel Company, Birmingham, Ala., and L. Sevier, president of the Alabama Associated Manufacturers, have become identified with the new company as incorporators and directors.

The company is now adding to its sales forces in the Southern States and will soon open offices in Fall River, Mass., in charge of H. H. Holcombe, with a force of salesmen and demonstrators, in order to serve the Eastern territory. The company now maintains branches in Greenville, S. C., Charlotte, N. C., and Atlanta, Ga., home office and works being located in Birmingham, Ala.

Heavy Cotton Cloth Importation Into the United States.

United States imports of cotton cloth through the customs districts of New York, Boston, Philadelphia, Chicago and San Francisco during January totalled 18,682,690 square yards, valued at \$4,566,284, compared with 17,170,573 square yards with a value of \$3,583,035 for December. The January total is the highest recorded since the detailed compilation of figures showing imports by classes was begun in March, 1924. The January imports comprised the following principal classes: Poplins and broadcloths, unbleached, 13,539,852 square yards, valued at \$2,700,015; bleached and colored, 1,018,151 square yards, \$337,682; sateens, 1,524,859 square yards, \$343,854; lawns, organdies, nainsooks, cambrics and similar fine goods, 1,067,511 square yards, \$293,832; voiles, 524,024 square yards, \$126,965; crepes, 662,565 square yards, \$116,472; gingham, two or more colors, 115,831 square yards, \$40,667. The balance includes ratines, dotted swisses and jacquard woven cloths.

Belgian Linen Industry.

Demand for Belgian flax from France and Ireland is said to be good, although prices have a downward tendency, according to report by Commercial Attache Allport, Brussels. The control of Russian flax exports by the Soviet limits the supply and keeps prices stable, not alone for Russian flax but for home grown fiber as well, since flax prices are largely based upon those of the Russian staple. Business in flax yarns is said to be unusually dull and spinners are willing to make some concessions. The situation of linen weavers is not very satisfactory. Old orders are being completed, and now orders have failed to materialize. Many of the important linen weavers are said to have from one-third to one-half of their looms idle, and others have shortened hours of operation.

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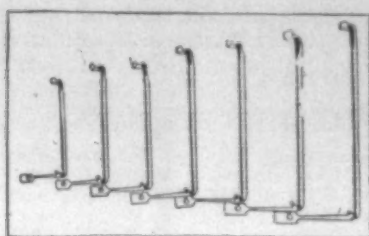
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Geo. F. Bahan, Charlotte, N. C.,
Southern Representative

The Cotton Outlook

(Continued from Page 12)

would exceed 7,000,000 bales; but they continue to maintain the percentage of increase over last year, the foreign demand seems insatiable, and it is difficult to see how exports will be under 7,500,000 bales. This would leave us, August 1, next under better trade and demand conditions, with about the same famine supply in America as we had last August.

With wool, flax and silk as high as they are, I wonder how much cotton is going into our "all wool" suits, into our "linen" handkerchiefs, and into "silk" stockings.

There has always been a certain amount of invisible cotton held on farms. The small crops, and high prices of the past two years, drew all of this out. It is natural that this invisible supply should be replaced; and, in all probability, a large amount of this 13,500,000 bale crop will remain on farms and not be placed on the market at all.

There are constant reports now of the Indian, Egyptian and Brazilian crops being smaller than estimates of some time ago. There is sufficient cotton for this season; but with price so near, and in many cases below production cost, mills are going to buy, and carry a stock well into the next season, as insurance against what may happen. About 11,500,000 bales have already come into sight. It is not likely that there will be pressure from what is left, nor that prices will decline from present level. Operation of the above indicated conditions is far more likely to force a gradual advance, as their effect develops; and, should weather in the spring be unfavorable for planting, the rise could be very great. Bull speculation has not gone into cotton so far this season, but is liable to take hold at any time.

Present indications are that stock in American public warehouses August 1, next, will be less than last August, unless prices should advance several cents per pound.

This is written for the purpose of calling to the attention of the thoughtful mind the facts as they now exist, and the probability of conditions developing as above set forth.

Active Spindles in January

The Department of Commerce announces that according to preliminary figures 37,866,066 cotton spindles were in place in the United States on January 31, 1925, of which 33,180,758 were operated at some time during the month, compared with 32,661,949 for December, 31,789,876 for November, 31,078,804 for October, 30,122,384 for September, 28,945,603 for August, and 33,279,926 for January, 1924.

The aggregate number of active spindle hours reported for the month was 8,493,240,466. During January the normal time of operation was 26½ days (allowance being made for the observance of New Year Day in some localities), compared with 26 days for December, 24½ days for November, 26¾ for October, 25½ for September, and 26

for August. Based on an activity of 8.78 hours per day, the average number of spindles operated during January was 36,503,376, or at 96.4 per cent capacity on a single shift basis. This percentage compares with 90.4 for December, 87.5 for November, 85.4 for October, 76.1 for September, 62.8 for August, and 95.5 for January, 1924. The average number of active spindle hours per spindle in place for the month was 224.

The total number of cotton spinning spindles in place, the number active, the number of active spindle hours and the average spindle hours per spindle in place are shown in the following statement:

United States.

In the United States on January 31, there were 37,866,066 spindles in place, of which 33,180,758 were active during the month. The total spindle hours was 8,493,240,466 and the average per spindle in place was 224 hours.

Cotton Growing States.

In the cotton growing States on January 31, there were 17,406,314 spindles in place, of which 16,965,378 were active during the month. The total spindle hours was 5,230,841,629 and the average per spindle in place was 303 hours.

New England States.

In the New England States on January 31, there were 18,531,022 spindles in place, of which 14,600,572 were active during the month. The total active spindle hours for the month was 2,919,196,044 and the average per spindle in place was 158 hours.

Cotton From Asia Minor

Liverpool, Eng.—The arrival here of 1,000 bales of cotton from the port of Mersina, in Asia Minor marks the opening of a new course of cotton supply to the spinning mills of Lancashire.

It will be a new source in the sense of constituting an addition to the centers which now feed Lancashire with raw cotton, says the Westminster Gazette, but curiously enough it was from this quarter of the Turkish Empire that Britain first began to draw her cotton supplies nearly four centuries ago. They were the mainstay of cotton spinning in England before the days of Arkwright, and before cotton cultivation in America assumed serious proportions.

A ginning factory has been laid down in Adana, the headquarters of one of the three cultivating areas and for which the port of Merina is a natural outlet. The two other areas are the hinterland of Smyrna and the valley of Sakaria. Adana can produce an annual crop of 100,000 bales; her potentiality is described as a minimum of 800,000 bales to a maximum of two million.

M. Husni, a member of a Manchester cotton firm, has expressed the view that the Smyrna crop would sell at pass price (middling) and the American-Egyptian hybrid crop of Adana would be worth more than pass price.

"The classification of this cotton in a business and scientific way," he said, "is receiving very careful attention and next year's crop will be offered on rigidly defined types."

Silk Versus Artificial Silk

The reeling and weaving of natural silk were known to the Chinese as early as about 1700 B. C., while the first commercial success in the manufacture of artificial silk yarns was attained by Count Hilaire de Chardonnet in 1884. Despite its comparatively recent development the world's output of the chemical product is now estimated to be greater than that of the silk worm.

This does not necessarily lead to the conclusion that the older fiber is being replaced by the artificial. Not only have both the production and the price of natural silk increased very greatly during recent years, but there is at present a greater disparity between the de-

they practically doubled. Quotations on these yarns have fluctuated to a very small extent up to the present year. In February, 1924, the largest American producers made important price cuts which had the effect of reducing foreign competition to a minimum.

The total value of silk manufactures during 1921, the latest year for which census figures are available, amounted to \$583,418,756. This gives the silk industry fourth place among the five principal groups of the textile industry which are primarily engaged in the manufacture of yarns, fabrics, and materials. The best basis for judging the activity of the industry, however, is by the importation of raw material, and the following table shows the growth in the production of artifi-

United States artificial silk production and raw silk imports.
(In pounds)

Items	1913	1919	1920
Artificial silk	1,566,000	8,000,000	8,000,000
Raw silk	27,978,805	44,816,918	30,058,374
	1921	1922	1923
Artificial silk	15,000,000	24,406,000	35,380,000
Raw silk	45,355,095	50,711,826	49,505,581

mand for silk products and the supply of raw silk than that which existed before the manufacture of the fibres by chemical processes became a factor in the market.

Natural silk is an agricultural product, and as such is subject to severe losses caused by unusual weather conditions, earthquakes, political disturbances, and other factors. The world output is limited to a certain extent, because the producers are dependent on their ability to secure an almost unlimited supply of cheap skilled labor. As Japan, the source of approximately 80 per cent of the United States imports of raw silk, becomes increasingly industrialized, the labor available for silk culture, of course, diminishes. This leads many to the belief that Japan is now at about the peak of its production, and with the European yield of silk cocoons already insufficient for its own needs any appreciable increase in the world supply of raw silk must come from China.

Another factor which tends to make the trade and manufacture of natural silk precarious is the control of both the price and the production in the principal producing countries. As a result of this situation, there are almost continual fluctuations, and the manufacturer is caught between the hesitancy on the part of jobbers, wholesalers, and retailers to buy on a falling market and the refusal of the consuming public to purchase silk goods when their price is forced to inordinately high levels by the cost of raw silk.

Artificial silk, on the other hand, is made from cellulose, one of the minor derivatives of wood pulp, and as manufacturers are always able to secure adequate supplies of this fiber they have been troubled little by fluctuations in price.

The United States is by far the largest manufacturer of both natural and artificial silk. In 1922 the importations of artificial silk yarns amounted to approximately 2,000,000 pounds, and in the following year

cial silk yarns and the imports of raw silk for comparative years:

The relations between the two industries at the present time are most cordial, the manufacturers of the chemical product selling a large part of their output of yarns to the silk and knitting mills. They have recently co-operated in selecting a name to replace "artificial silk" which connotes an imitation of the natural silk fiber instead of a distinct product which has attained a place of its own in the textile world. "Art silk," "fiber silk," and other such ambiguous terms seemed to indicate a distinct brand or kind of silk, and for that reason were obviously unsuitable. They finally adopted the name "Rayon" for the chemical fiber.—Commerce Reports.

Make Radio Sets of Cloth.

Washington.—A revolutionary discovery in radio has been claimed by an inventor here, who has made a receiving set out of a piece of cloth.

A 5-cent crystal, a piece of this cloth, a groundwire and earphones make a complete receiving outfit with which it is possible to hear perfectly. Coils and other mechanisms are unnecessary as the device woven into the cloth contains all the properties needed. In this way a receiving set costing several dollars can be installed for a few cents without bothering with connections and antennae.

In a demonstration of the equipment, the inventor simply connected a pair of earphones with a fixed crystal and held the crystal near the cloth, without any physical contact. The reception was perfect.

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FIG. 20.
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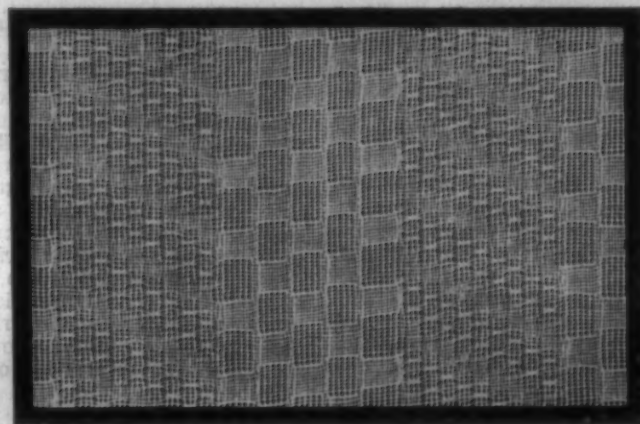
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Sample No. 77.—Fancy Leno Voile.

Dobby and leno woven. Finished width, 42 inches.

64 ends and 52 picks per square inch, finished.

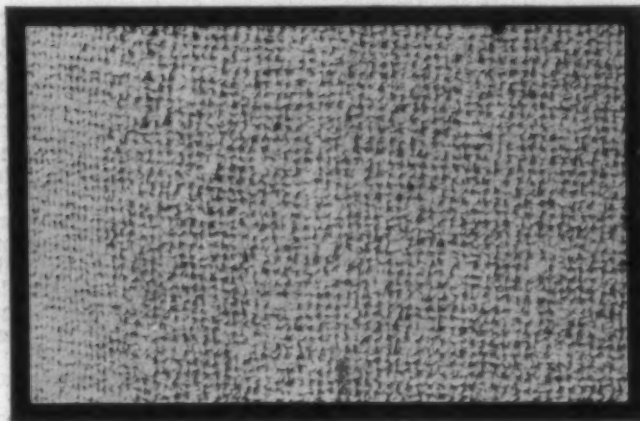
Warp yarn, 111/2, bleached; 111/2, dyed. Filling yarn,

102/2 bleached.

Weight, 7.62 linear yards (8.89 square yards) per pound,

finished.

White warp with blue stripes; white filling.



Sample No. 78.—Ratine or Sponge Cloth.

Plain woven. Finished width, 39 inches.

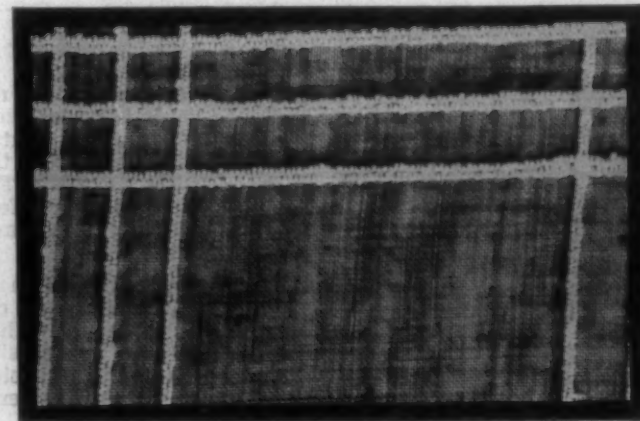
18 ends and 18 picks per square inch, finished.

Novelty yarn composed of 28/2, 14s, and 28s twisted
together, in both warp and filling.

Weight, 2.17 linear yards (2.35 square yards) per pound,

finished.

Piece-dyed rose.



Sample No. 79.—Fancy Novelty Voile.

Plain woven on box loom. Finished width, 42 inches.

66 ends and 62 picks per square inch, finished.

Warp yarn, 114/2, hard twisted, dyed; 30/4, novelty
yarn, bleached. Filling yarn, 134/2, hard twisted,
dyed; 30/4 novelty yarn, bleached.

Weight, 6.47 linear yards (7.55 square yards) per pound,

finished.

Red voile yarn, and white novelty yarn, in both warp
and filling.

Clark's Cotton Records

Statistics Week Ending Feb. 21, 1925.

	1925.	1924.	1923.
Visible supply American.....	4,325,000	3,394,000	2,727,000
Into sight during week.....	222,000	110,000	106,000
Mill takings during week.....	290,000	165,000	224,000
Mill takings since Aug. 1st.....	8,981,000	7,570,000	8,554,000
Exports during week.....	206,000	93,000	84,000
Exports since Aug. 1st.....	5,894,000	4,084,000	3,451,000

Government Reports.

Acreage this season.....	40,403,000	38,709,000	34,016,000
Indicated crop July 25.....	12,144,000	11,412,000	11,065,000
Indicated crop middle of July.....	11,934,000		
Indicated crop end of July.....	12,351,000	11,516,000	11,449,000
Indicated crop middle of Aug.....	12,956,000		
Indicated crop end of Aug.....	12,787,000	10,788,000	10,575,000
Indicated crop middle of Sept.....	12,596,000		
Indicated crop end of Sept.....	12,499,000	11,015,000	10,135,000
Indicated crop middle of Oct.....	12,675,000		
Indicated crop end of Oct.....	12,816,000		
Indicated crop middle of Nov.....	12,992,000		
Indicated crop end of Nov.....	13,153,000		
Ginned to Oct. 1st.....	4,527,671		
Ginned to Oct. 18th.....	7,600,826	6,415,145	6,078,321
Ginned to Nov. 14th.....	11,163,400		
Ginned to Dec. 1st.....	12,225,000		
Ginned to Jan. 16, 1925.....	13,308,037		
Carryover beginning of cotton year.....	2,319,000	2,573,000	4,879,000

Cotton Exports.

Following is a comparison of the exports by months in running bales, including linters:

	1924.	1923.	1922.
August.....	277,641	244,415	272,808
September.....	737,010	689,435	378,390
October.....	947,556	781,722	798,664
November.....	1,306,000	770,002	858,337
December.....	1,076,000	845,581	607,853
January, 1925.....	1,076,000	546,253	473,436
February.....		482,146	359,657
March.....		332,168	318,210
April.....		320,774	259,984
May.....		326,357	160,368
June.....		230,979	214,851
July.....		211,633	171,469
	5,772,000	4,864,027	

American Consumption of All Kinds of Cotton, Excluding Linters.

(In running bales, 000s omitted.)

	1924-25		1923-24		1922-24	
	Per Month	Per Season	Per Month	Per Season	Per Month	Per Season
August.....	357	357	492	492	526	526
September.....	435	793	484	975	494	1,020
October.....	530	1,322	542	1,517	534	1,554
November.....	492	1,814	532	2,049	579	2,133
December.....	533		462	2,510	529	2,663
January 3.....	589	578	577	3,088	610	3,273
February.....			508	3,595	567	3,840
March.....			484	4,079	624	4,464
April.....			480	4,559	577	5,041
May.....			414	4,991	621	5,661
June.....			350	5,341	542	6,203
July.....			347	5,688	463	6,666

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The stories of Becky Ann deal with cotton mill life and are very popular in the mill villages. They sell for \$1.00 each.

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Sheetings, Combed Peeler Yarns

Cotton Goods

New York.—Cotton goods markets were fairly active and prices were steady throughout the week. Sales of wide print cloths were large, being estimated at about 255,000 pieces, with deliveries running ahead as far as June. Prices were somewhat higher. Percales were advanced again and a good trade developed on printed goods. Slight advances were also named on gingham lines opened for next fall.

While sheetings markets were rather quiet, inquiry was appreciably higher. Indications are that the bagging trade will purchase actively within a short time. Cotton duck and tire fabrics were quiet, but mills are well sold at present and prices are holding well. Fine combed goods in the gray sold well. Broadcloths, sateens and pongees sold well to printers and converters. Sales of novelty wash goods were steady, although quantities purchased were small. Bright colors in sport weaves were in best demand. Denims sold well for delivery into the second quarter of the year. There was a moderate demand for tickings, wide sheetings, sheets and pillow cases.

Print cloths were steady at the end of the week. For spot sale, 38½-inch 64x60s sold at 9½ cents. Sheetings have sold at 11½ cents with terms for 4-yard 56x60s and the price was afterward advanced to 11½ cents. For 6.15s 7½ cents has been paid for round lots and 7½ cents for smaller lots. Contracts have been placed for the second quarter of the year. Other goods sold on the basis indicated. The demand was not as broad as on the earlier days of the week.

There was considerable inquiry reported for 128x68s combed domestic broadcloth. Contract deliveries interested buyers and futures were held for 22 cents to 22½ cents. Additional quantities of spot 112x60s came into the market at 20 cents while it was still possible to get futures at 19½ cents. A few factors stated they had difficulty in finding spot 144x76s which, when found, sell for 26½ cents to 27 cents. An English house is sold up on this number to the limit of its capacity, which is 25,000 yards per month. They now ask 30 cents for the Egyptian yarn style. Others in the market will sell at 28 cents.

The only activity in 100s two-ply voiles is the character of inquiry. There are a few factors who are said to own fair stocks of the better makes in the gray, which they hold for 29 cents. Good makes of 72x 100s combed pongees are held for 16 cents, spots or contracts. The buyer of them can obtain deliveries

beginning early, for some mills will squeeze out a few for late buyers. Spot 100x64s carded broadcloths are said to be scarce, but enough of them can be found at 16 cents to satisfy the reasonable demands of the trade. The running on them has created a lack of 100x44s poplins.

There were sales of 96x50 carded reverse twist warp sateens at 13¼ cents East, contract. For the 56 pick, 13½ cents, contract, Eastern, and one-half the last on Southern. There was interest in reports of business in a split count below 128x 68, said to involve carded goods at around 17 cents. Some reports were that the cloth counted 110x72. Recently, there had been reports of 118x68, carded, at around the same price, with some fair business said to be involved.

The sales for the week in the print cloth market showed a better volume than last week, approximately 100,000 pieces of goods being reported sold since last Friday. This trading has been carried on through the week in a rather quiet manner, with heavy sales of 36-inch numbers featuring, although buyers have placed some orders for numbers which have been quite dormant in this market of late. Narrow printers' styles have shown some interest in contrast to past weeks.

In the 36-inch numbers, 32x28, 13 yard, and 36x32, 11.20 yard, were reported sold in heavy volume, the former at 4¼ cents and the latter at 4½ cents. Other constructions in this line were sold upon a corresponding basis. In the narrow prints, 25-inch, 52x44, 11.00 yard, were reported sold at 5 cents, and the 56x44, 10.55 yard, at 5½. For 27-inch, 64x60, 7.60, 7 cents was paid, with 7½ cents for 31½ inch, 56x72, 7.50.

Wide numbers have also been in fair demand, with reported sales of 44-inch, 48 squares, 6.40, at 8½ cents.

Sateens found fair trading on the basis of 13½ cents for the 37½-inch, 64x104, 4.37, and 12½ cents for the 4.70. The demand for shadow stripe sateens continues unabated. The trading of the week shows a considerable improvement over last week.

John V. Farwell Company, Chicago, say in their weekly review of trade:

Prices current in primary markets follow:

Print cloths, 28-inch 64x64s, 7½ cents; 64x60s, 7¼ cents; 38½-inch 64x64s, 9½ cents; brown sheetings, standards, 15½ cents; denims, 220s, 19 to 19½ cents; tickings, 8-ounce, 26 cents; prints, 9½ cents; staple gingham, 10 cents, at value; dress gingham, 17½ to 20 cents.

Southeastern Selling Agency

LESSER-GOLDMAN COTTON COMPANY

OF ST. LOUIS, MO.

P. H. PARTRIDGE, Agent, Charlotte, N. C.

Extra staples, and good 1 1-16 and 1½ cotton from Arkansas, Oklahoma, and Texas, and Memphis territory.

The Yarn Market

Philadelphia, Pa. — Although the yarn market remained quiet throughout the week and there was little change in prices, the position of the spinners strengthened somewhat before the week ended. Some new business was booked by Southern mills and the stronger spot cotton market also helped the situation. Prices continued to show a great deal of irregularity, with spinners' quotations a good deal above those quoted in this market.

Inquiry for yarns for future delivery was somewhat better, but the inability of buyers and sellers to get together on a price basis prevented sales of any appreciable size. There was a moderate demand for carded yarns for export. The bulk of the business, however, continued to cover spot and nearby deliveries, with little interest in future requirements.

There has been further talk of curtailment by Southern mills and reports from Gaston county indicate that the combed yarn mills are expected to cut their production by 25 per cent by the first of March, unless conditions show a decided improvement before that time. Reports from various parts of the South show that spinners are inclined to curtail rather than pile up stocks. Many Southern mills are supplied with business to keep them active during the next several weeks.

Although dealers have continued to sell spot lots at prices considerably lower than spinners' quotations, the mills generally remained very firm in their quoted prices.

Published quotations in this market were as follows:

Southern Two-Ply Chain Warps.			
2-ply 8s	40 a	2-ply 26s	48 a
10s	41 a	2-ply 30s	49 1/2 a50
2-ply 16s	43 a	2-ply 40s	58 a60
2-ply 20s	43 1/2 a44	2-ply 50s	66 a68
2-ply 24s	47 a		
Southern Two-Ply Skeins.			
8s	33 1/2 a	40s	55 a57
10s to 12s	39 1/2 a40	40s ex.	58 a60
14s	41 1/2 a	50s	65 a67
16s	42 1/2 a	60s	74 a
20s	43 a43 1/2	Tinged Carpet	
24s	47 a	3 and 4-ply 36 1/2 a37	
26s	48 a	White Carpet	
30s	49 a49 1/2	3 and 4-ply 38 a39	
36s	54 a		
Part Waste Insulated Yarn.			
8s, 1-ply	35 a36	12s, 2-ply	38 a39
8s, 2, 3 and		20s, 2-ply	43 a
4-ply	36 a37	26s, 2-ply	47 a
10s, 1-ply and		30s, 2-ply	49 a
3-ply	37 a38		
Duck Yarns.			
3, 4 and 5-ply		3, 4 and 5-ply	
8s	39 a	16s	43 a
10s	40 a	20s	44 a
12s	41 a		
Southern Single Chain Warps.			
10s	40 a	24s	46 1/2 a
12s	40 1/2 a	26s	47 1/2 a
14s	41 1/2 a	30s	50 a51
16s	42 1/2 a	40s	57 a58
20s	44 1/2 a		
Southern Single Skeins.			
6s to 8s	35 a	20s	43 a
10s	39 a	24s	46 a
12s	40 a	26s	47 a
14s	41 a	30s	49 a
16s	42 a		

Southern Frame Cones.

8s	38 a	22s	41 1/2 a
10s	38 1/2 a	24s	43 a
12s	39 a	26s	43 a44
14s	39 1/2 a	28s	45 a
16s	40 a	30s	47 a
18s	40 1/2 a	20s tying in	46 a
20s	41 a	40s	55 a56

Southern Combed Peeler Skeins, Etc.			
2-ply 16s	56 a60	2-ply 50s	78 a82
2-ply 20s	58 a62	2-ply 60s	85 a87
2-ply 30s	65 a67	2-ply 70s	95 a100
2-ply 36s	68 a75	2-ply 80s	105 a110
2-ply 40s	70 a75		

Southern Combed Peeler Cones.

10s	50 a	30s	60 a
12s	51 a	32s	62 a
14s	52 a	34s	64 a
16s	53 1/2 a	36s	65 a
18s	53 a	38s	68 a
20s	53 1/2 a	40s	70 a
22s	54 a	50s	75 a
24s	54 1/2 a	60s	85 a
26s	55 a	70s	95 a
28s	57 a	80s	105 a

Eastern Carded Cones.

10s	47 a	22s	53 a
12s	48 a	26s	55 a
14s	49 a	28s	57 a
20s	52 a	30s	59 a

Yarn Spinners' Bulletin.

The weekly bulletin of the Southern Yarn Spinners' Association says: "The yarn market remains quiet with consumers slowing but little inclination to buy. Such purchases as are reported are of the hand-to-mouth variety, and are in only small quantities. Prices remain about the same level. The spinner's asking prices higher than the reported market.

"Apparently customers intend to continue the hand-to-mouth policy of buying. If such be the case spinners will be forced to adopt a similar policy of operations. For some time past operations have been regulated by the volume of business received. No stocks are being accumulated, and already curtailment is being practiced. Advices from Gastonia, N. C., are to the effect that commencing March 1 a 25 per cent reduction in operations of mills in that county will be made amounting to a curtailment of some 350,000 pounds per week. Reducing running time is reported from other sources, indicating that shortly a material curtailment of operations will be effective unless orders are received in sufficient volume to warrant a continuance of the present schedule of operations."

Safe Blowers Seize \$1,000 At LaGrange.

LaGrange, Ga.—Timing their visit to the minute to escape the rounds of the night watchman, expert safe robbers entered the Dunson Cotton Mills here early Saturday, dynamited a heavy vault and two inner safes, and escaped with more than \$1,000 in cash.

CATLIN & COMPANY

NEW YORK BOSTON PHILADELPHIA CHICAGO

Commission Merchants

Cotton Cloth and Cotton Yarn

SOUTHERN OFFICE

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Gum Tragasol Agglutinates

the fibres of the yarn—cotton, woolen or worsted which ever it may be—and prevents waste of good materials by eliminating flyings.

Gum Tragasol is Cheaper

than either wool or cotton, therefore, its use is a distinct economy.

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MILLS DESIRING DIRECT REPRESENTATION AND HAVE
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Want Department

For Sale

8 Frames Fales & Jenks Spinning.
1 Foster Winder.
15,000 Spinning Bobbins.

Calhoun Yarn Mills
Calhoun, Ga.

For Sale

1 Keeler Horizontal Return Tubular Boiler, 90 H. P., 60" diameter, 17 feet long. To carry 100 lbs pressure. The Randolph Mills, Franklinville, N. C.

Superintendent Available

Fifteen years' experience as general superintendent. Can efficiently operate any mills in the country. Thoroughly experienced in yarns and fabrics, plain, colored and fancies. Address F. N. B., care Southern Textile Bulletin.

For Sale

We have for sale at reasonable price, 116-4 box Crompton and 176-4 box Crompton & Knowles 36-inch gingham looms. Now running and in good condition. Address or phone J. R. Young, Greensboro, N. C.

WANTED

Position as superintendent of small yarn or plain weaving mill. Have 20 years' experience throughout the mill, 7 years as overseer of spinning. Have an I. C. S. diploma on cotton carding and spinning and can furnish good reference. Will take place at small salary to start. I am 37 years of age and have good health. Spinner, care Southern Textile Bulletin.

For Sale

Two 5 H. P. Singer Sewing Machine Motors, Style S. A. 338, alternating current, 220 volts, 60 cycle, 3 phase, 13 1/2 amperes, 4 1/4" diameter. Pulley 1735 R. P. M. Stonewall Cotton Mills, Stonewall, Miss.

Wanted

A competent man as overhauler on spinning and speeders. Must be sober and willing to work. Steady job the year around. State wages wanted and give references in the first letter. Apply L. G. C., care Southern Textile Bulletin.

Wanted

Combination man as grinder and fixer, 14 Whitin Cards, Woonsocket Roving Machines, Kitson Pickers. Middle aged man with family of mill help for spinning department. Pay \$3.00 a day. Address North Carolina, care Southern Textile Bulletin.

We offer the following for prompt delivery and subject to prior sale:

- 10—No. 30 Foster cone winders.
- 1—No. 30 Foster tube winder.
- 4—4x6 Whitin spoolers, 120 sp. each.
- 2—4x6 Whitin spoolers, 100 sp. each.
- 2—Whitin twisters, 3 1/2" R., 4 1/2" G., 144 sp. each, tape drive.
- 2—Lowell twisters, 3 1/2" R., 4 1/2" G., 132 sp. each.
- 1—Whitin twister, 4" R., 5" G., 144 sp.
- 1—Whitin twister, 4" R., 5" G., 96 sp.
- 4—Fales & Jenks twisters, 2 1/4" R., 180 sp. each.
- 3—Hopedale twisters, 2" R., 3" G., 200 sp. each.
- 2—Lowell twisters, 2" R., 3" G., 200 sp. each.
- 1—38" 1919 model Saco-Lowell automatic feeder.
- 1—2400 end Cocker denn warper.
- 1—1200 end Cocker ball warper.
- 1—Single linker Globe denn warper.
- 8—26x54 1/4 Draper section beam warpers.
- 10—26x54 1/4 Entwistle section beam warpers.
- 4—Model I Draper ball warpers.
- 20—45" Platt cards.
- 1—86" Breaker napper.
- 2—12x6 Saco-Pettee slubbers, 60 sp. each.
- 5—8x4 Saco-Pettee speeders, 120 sp. each.
- 200—40" E Model Draper looms.
- 60—60" E Model Draper looms.
- 1—86" B. S. Roy grinder.
- 350—26x54 1/4 section beams.
- 50—24x54 1/4 section beams.
- 300—12x36 roving cans.
- 1—7 1/2 H.P. G. E. motor, 220 V., 3 P., 60 C., complete with pulley and starter.
- 1—40" set Dronsfield travis grinding rolls.
- 1—40" Dronsfield drum grinder.
- 1—40" burnisher.
- 1—40" stripper.

If you do not see what you want, wire or write us.

C. L. Upchurch & Sons
Athens, Ga.

Master Mechanic Available

Have had 21 years' experience. Can give splendid references. D. M. Long, 10 Burdett St., Greenville, S. C.

Position Wanted

As master mechanic by a man with twenty years' experience. Large or small job; steam, water or electric power. Four years on the present job. Address C. W., care Bulletin.

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U. S. Ring Travelers are uniformly tempered which insures even-running spinning. They are also correct as to weight and circles. Quality guaranteed.

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10,000 SPINNING SPINDLES

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3/8" WHIRL

STANDARD McMULLAN BLADE
VARYING 2 TO 4 YEARS OLD.

IN FINE CONDITION

REPLACED BY TAPE DRIVE SPINDLES

Large Supply Filling Bobbins
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"Want Ads" in the SOUTHERN TEXTILE BULLETIN Get

RESULTS

Rates: \$1.50 per inch per insertion

Power Situation in North Carolina

(Continued from Page 8)

made by a properly constituted commission.

It is folly to assert that North Carolina or any other State possesses sufficient undeveloped water power to meet the needs of industry for the next 50 years, or for any definite period in the future. Expressed in terms of potential power, this may be true, but a large proportion of that power cannot be economically developed under conditions which exist now or are likely to exist in the near future. For the period in advance with which we are concerned, coal or other fuel must continue to play an important part as auxiliary to many water power developments in this and other States. Any investigation of undeveloped water power developments must recognize at the outset that this power can only be developed with a maximum of efficiency and economy by considering the interrelation of the three important factors of storage, steam auxiliary and interconnection.

Piece Goods Imports into India Decrease

The Indian piece goods market is still dull and prices are declining. India's imports of cotton piece goods declined from a total of 155,996,000 yards for November to 96,286,000 for December, according to cable from Trade Commissioner Spofford, Bombay. Receipts of grey (unbleached) goods decreased from 84,745,000 yards during November to 43,732,000 in December, bleached goods from 39,681,000, to 31,794,000, and imports of colored goods dropped from 31,570,000 for November to 20,760,000 during December. The United Kingdom supplied 69 per cent of the colored. Japan furnished 27 per cent of the grey and 14 per cent of the colored.

Textile Education in South Carolina

Clemson College, S. C.—(Special) The Education Division of Clemson College in cooperation with the Textile Department, the Courtney Manufacturing Company, Newry; Issaqueena Mills, Central; and the Joanna Mill, Seneca, has instituted a new course for the training of students along the lines of Industrial Education. The purpose of the course is to fine men to go out from Clemson to the manufacturing centers of the State to train textile workers. Inasmuch as the chief manufacturing interests of the State center around textile work, the principal part of the instruction and training deals with textile manufacturing in cotton mills near the college, the turing, practice in actual teaching conditions of modern cotton mill, actual experience in cotton mills, a study of the kinds of training most needed in our mills.

These young men are qualified to accept positions as teachers of mathematics, natural science, manual training, physical training and

other high school subjects, besides being able to serve as instructors of evening and part-time classes in cotton mill communities.

This new course is one with very good possibilities for the men who enter into it with the desire to master the instruction and training. The field of Industrial Education is one that has not heretofore had teachers who were both technically and professionally trained directly for our textile industry. The men who go out from Clemson at the close of the college session with the training offered by this course will have an unlimited field open before them, and the success attained will be defined only by the individual and his possibilities.

Labor Planning Next Child Labor Contest.

Miami, Fla., Feb. 11.—Efforts to elect legislators who favor ratification of the child amendment to the federal constitution will be made in a campaign of indefinite length by the American Federation of Labor, it was decided today by the federation's executive council in session here.

"The executive council," Secretary Frank Morison said, "instructed officers of the federation to continue their efforts to secure ratification of the child labor amendment. That means that a campaign will be inaugurated in the states that have refused to ratify the child labor amendment to elect legislatures that will be favorable to ratification."

There is no time limit to ratification. The fight can be continued in definitely until a sufficient number of states have been secured to ratify the amendment."

Consolidated Textile Corporation.

Lynchburg, Va.,

Feb. 3, 1925.

Mr. David Clark,
Care Clark Publishing Co.,
Charlotte, N. C.

Dear Mr. Clark:

Since it is now assured that the Child Labor Amendment will be rejected by a large number of States, much more than the necessary amount to defeat same, I want to congratulate you on the part which you have taken in this campaign.

I know that you did a large amount of very efficient work in this cause and am sure that it must be a source of satisfaction to you in realizing that your work has met with success.

I, also, know that your work was not as highly appreciated as it should have been by some and that you worked under great difficulties for this reason.

With kind personal regards, I am,
Yours very truly,

WILLIS E. JOHNSON,
General Manager.

New Mill Incorporated.

The Maurice Mills, Thomasville, N. C., have been incorporated with a capital stock of \$100,000 by T. E. Jennings and M. L. Bales.

EMPLOYMENT BUREAU

The fee for joining our employment bureau for three months is \$2.00, which will also cover the cost of carrying a small advertisement for one month.

If the applicant is a subscriber to the Southern Textile Bulletin and his subscription is paid up to the date of his joining the employment bureau the above fee is only \$1.00.

During the three months' membership we send the applicant notices of all vacancies in the position which he desires and carry small advertisement for one month.

We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern Textile Industry.

WANT position as overseer small card room or second hand in large mill. Would also consider night overseer's place. References. No. 4374.

WANT position as overseer carding. Would prefer mill that is run down and not getting results where I would have chance to prove my ability. Age 30, married, sober, good references, 18 years' experience. Now employed. No. 4375.

WANT position as superintendent or overseer large card room. Prefer weave mill on plain work. Good references. No. 4376.

OFFICE man of unusual ability wants to correspond with mill needing man of long experience, age 33, married. Thoroughly acquainted with mill cost accounting. Excellent references. No. 4377.

WANT position as superintendent. Have had many years of excellent training and am capable in every respect. Excellent references. No. 4379.

WANT position as overseer spinning or second hand in large mill. Age 25, married, good habits, qualified by experience and training to handle room unusually well. References on request. No. 4380.

OVERSEER spinning with long experience wants position with large mill. Would consider carding and spinning in medium size plant. Prefer personal interview with parties desiring man of character and ability. No. 4381.

EXPERIENCED and capable overseer of weaving wants to make a change. Good reason for leaving present employer. Would appreciate opportunity to present references as to character and ability. No. 4382.

WANT position as overseer spinning and twisting or twisting and winding. Foster machines, hosiery yarns. Age 47, 20 years as overseer, have taken textile course for overseers. No. 4383.

EXPERIENCED superintendent who has successfully run a number of first-class mills desires to change. Excellent references to show past record. No. 4384.

WANT position as overseer weaving. Practical man of long experience who can get quality and quantity production on wide variety of fabrics. No. 4385.

WANT position as overseer carding or assistant superintendent. Long experience in card room and office. A-1 references. No. 4386.

WANT position as overseer cloth room. Long experience on high class plain and fancy goods. Now employed but wish larger place. Can furnish excellent references. No. 4387.

WANT position as carder or spinner or both, or overseer winding. Experienced overhauler and erector, formerly erector for Whitin Machine Works. First-class references. No. 4388.

WEAVE MILL superintendent, with 6 years' experience as such on both plain and fancy goods wishes good mill. College and textile school education. References. No. 4389.

WANT position as superintendent or overseer weaving. Capable man of long experience. Good habits, energetic and always on the job. Best of references. No. 4390.

OVERSEER carding of unusual ability desires position. Have had 12 years as carder, 2 years as erector of carding and spinning for Saco-Lowell. Good habits, steady worker. No. 4394.

WANT position as overseer carding or spinning, day or night. Now employed in good mill. Seven years as overseer. Excellent references. No. 4391.

WANT position as overseer carding. Now employed but have good reason for making a change. References to show ability and character. No. 4393.

SUPERINTENDENT open for position. Prior to being superintendent was in mill office, mill engineering, textile school, work in all departments of mill. Experienced in cotton mill machine shop work, and as overseer carding. Good executive. References. No. 4392.

COTTON CLASSER of 15 years' experience wishes position as classer in large mill or classer and general office man in smaller mill. Best of references as to character and ability. No. 4395.

WANT position as superintendent, or good place as overseer carding and spinning. Excellent record of past service. Good references. No. 4396.

OVERSEER WEAVING would like to correspond with mill needing first-class man for this department. Good references. No. 4397.

WANT position as overseer carding or second hand if there is a chance for promotion. Age 40, married, good manager of help. Can give good references. No. 4398.

WANT position as overseer carding. Good record with first-class mills. Can come on short notice. Excellent references. No. 4399.

WANT position as overseer weaving or second hand in large room. Experienced on wide variety of plain and fancy goods. Good references. No. 4400.

WANT position as overseer weaving. Several years' experience as overseer. Good manager of help. Good references. No. 4401.

WANT position as superintendent. Ten years as superintendent; on present job 6 years. Was carder 12 years with some of the best mills; long experience in both yarn and cloth mills from waste reworking systems to staple cotton and from coarse duck drills and osnaburgs to fine fabrics. Can give best of references. No. 4402.

CHIEF ENGINEER and master mechanic wants position with good mill. Have had 17 years' experience in cotton mill steam and electric power plants, ranging in size from 500 to 1,500 horsepower; 12 years as master mechanic, 4 years as machinist in navy yard at Charleston. No. 4404.

DESIGNER AND WEAVER wants position where he can handle both positions. Experienced in fine weaving and designing, drawing-in and slashing. No. 4405.

WEAVER of unusual ability and excellent record wants position as overseer good weave room. Experienced, capable and reliable. Good references. No. 4409.

WANT position as carder, spinner or master mechanic. Thoroughly trained in each department. Correspondence solicited. No. 4405.

WANT position as carder or spinner, or both. Have had long experience in good mills and can get excellent results. No. 4406.

MAN with 7 years' experience in mill, five years handling mill supplies and five years as bookkeeper in mill office wants position as purchasing agent. Would accept well paying place as supply room man. No. 4407.

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Eclipse Textile Devices, Inc.

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BEAM HEADS—

Mossberg Pressed Steel Corp.
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BEAMS (All Steel)—

Mossberg Pressed Steel Corp.
Saco-Lowell Shops.

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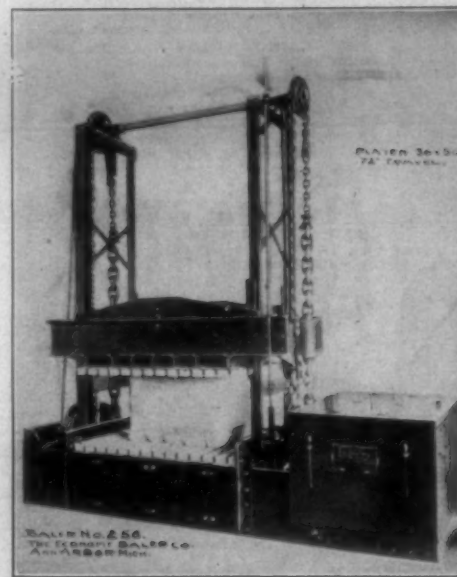
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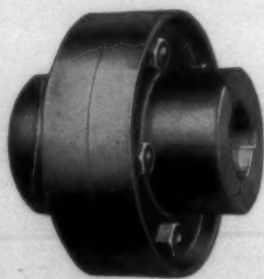
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